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OEDEMA OF THE LUNGS FOLLOWING THORANCENTESIS, WITH REPORT OF A CASE.*

BY S. M. MILLER, M. D., PEORIA, ILL.

Case History.—This patient was a laboring man, aged 33, married, and had two children. There was no previous history bearing on the present illness. Venereal history negative. Family history negative. He was admitted to my care in Cook County Hospital in January, 1900, with a history of having had a severe pain in the right side of the chest two weeks previously, which persisted for a week and then disappeared. The pain was sharp and cutting in character, and was increased by deep inspirations. After this the patient complained of shortness of breath on exertion, malaise and loss of strength. There was no material loss of flesh.

The examination revealed a man of fair muscular development and of fair nutrition. A moderate degree of anemia was apparent, shown by the pallor of the mucous membrane and of the skin. Examination of the chest: The right side of the chest was more prominent than the left, and immobile during breathing; on percussion there is dullness over the right side of the chest, extending upwards anteriorly to a point two fingers breadth below the clavicle and posteriorly as high as the spine of the scapula. There was little change in the area of dullness with change of posture. On auscultation the breath sounds over the dull area were indistinct and distant, and inaudible over the lower part of the lung. The voice sounds were not transmitted. The left lung was normal. No impairment of resonance or breathing sounds was found. The rest of the examination was negative, the heart and the abdomen showing nothing abnormal. The patient was kept under observation for four days, during which time his condition did not change materially. The temperature ranged from normal to 100.5 degrees, and sometimes a trifle higher. A diagnosis of acute pleurisy with effusion was made. After four days the right pleural cavity was aspirated in the posterior axillary line in the seventh interspace, and 1400 c. c. of clear yellowish fluid was withdrawn. The aspiration was performed with the patient recumbent, and consumed about twenty-five minutes. The examination of the chest directly afterward showed the normal resonance and breath sounds over the affected right side of the chest, and the patient experienced relief from the dysponea, and the sensation of compression for an hour, when he began to suffer from a constant cough, productive of a clear, frothy fluid, which was expectorated profusely, in all five or six cupfuls. The dyspnoea returned and became very distressing. The breathing was labored and was accompanied by extreme cyanosis and great discomfort, and sense of suffocation. The pulse soon became weak and running, and the patient collapseed and died within an hour in great agony, still cyanotic, and expectorating clear, frothy fluid. At this time numerous coarse bubbling rales were heard over both sides of the chest. Death was attributed to asphyxia, the patient literally being drowned in the fluid which filled the lungs.

This disastrous sequel of a simple and uncomplicated thoracentesis is fortunately a rare event. Sudden death during the course of a pleurisy, and sometimes without premonition during the tapping, is an occasional occurance. Some of these deaths are due to embolism. Clots formed in the pulmonary veins, and dislodged during the tapping, or independent of it, may lodge in the heart, causing sudden death, or embolism of clots

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formed in the pulmonary arteries, with the occulsion of large branches of these vessels may occur either with fatal results or with the formation of infarcts. Osler reports a post-mortem in such a case, in which he found a clot extending from the right ventricle into the pulmonary artery, in the case of a man who died suddenly during the course of a pleurisy with effusion. Another curious instance is reported (Frantzel) where death ensued eight hours after tapping, from the rupture of a small aneurism in a lung cavity of a phthisical patient, the suddenly increased arterial tension being sufficient to rupture the vessel.

In 1852, Bowdich, of Boston, introduced the use of capillary trochars, and the withdrawal of the pleural fluid by means of an exhausting syringe, the device commonly used today, and in the following year, the first case of oedema of the lungs after tapping was reported, that of Pinault, in 1853, and in the next twenty years twenty cases were added to the literature. They were collected by Terillon in 1873. Among them were two fatalities, a mortality of 10%. Since that time the literature is meagre, and beyond the considerable attention devoted to the subject by the French, and especially in our own literature, scant mention is made. There are but five cases reported in the German literature.

The name, albuminous expectoration, was given to this complication by the French, from the characteristic symptom, the expectoration of a large quantity of frothy fluid, rich in albumen. Various explanations as to the origin of this fluid are suggested; first, that the lung is punctured by the trocar, and that the fluid expectorated is a plural exudate which has leaked into a bronchiole; or the same outlet for the fluid may have been possible from the spontaneous rupture of the expanding lung. The similarity of the fluid expectorated to the pleural exudate in some cases suggests this eplanation. However, the physical and chemical characters of the albuminous expectoration has varied greatly in the different cases, the specific gravity varying between wide limits, sometimes being low, sometimes being so high as to suggest that the fluid is an exudate. The amount of the albumen likewise varies greatly. Again, the onset of the complication occurs from a half to six hours after the tapping. Potaine regards albuminous expectoration as due to the entrance of air into a lung, which for a considerable time has not been accustomed to its presence, and which so acts as an irritant, and, according to him, it is not dependent upon expansion of the lung.

The best explanation of the cause of the oedema of the lung following thoracentesis is the following: The blood pressure in the arterioles and capillaries of the collapsed lung is low, so low, and the circulation so retarded in some cases as to allow the clotting of blood in the pulmonary vessels, and the formation of emboli, with serious results, as instanced above. The greatest volume of blood passes through those parts of the lungs not compressed by fluid. The sudden filling of relaxed capillaries and arteries, which follows the rapid expansion of the lung, caused the rupture of a small aneurism of a pulmonary vessel in the lung cavity of a phthisical patient, as reported by Osler, and it is responsible for hyperemia, with a resulting transudation of serous fluid through the vessel wall, and its outpouring into the alveoli of the lung, and oedema of the lung results, similar to the oedema occurring in any tissue after it has been temporarily deprived of its blood supply. Note the oedema and swelling that follow the constriction of a limb, or the extensive oozing and the characteristic wet stump that results after an amputation in which a tourniquet has been used.

The accident has usually been noted after the withdrawal of large quantities of fluid and after its rapid withdrawal. In my own case, however, it occurred after the withdrawal of not more than three pints, and in two cases of Frantzel but little more than three pints had been withdrawn. Prevost tapped a patient repeatedly. At the first tapping 1,000 c. c. was withdrawn; no oedema followed; at the second tapping 3,000 c. c. was withdrawn, and oedema of the lung resulted. In

most cases the oedema follows the removal of from 2,000 to 5,000 c. c. of fluid. The autopsy findings show nothing more than oedema of the lung of the affected side, sometimes of both sides. In my own case, the physical findings were marked on both sides of the chest. Whether this was due to simultaneous oedema of both lungs, or whether the fluid from the affected lung found its way into the opposite lung through the other bronchus, thus literally drowning the patient, it is impossible to state.

The onset is characterized by a slight cough, shortly before the completion of the tapping, or more usually within one-half hour to six hours afterwards, during which period the patient has experienced marked relief. Then the cough and dyspnea become persistent and intense. Cyanosis follows the difficulty in breathing. The breathing becomes labored, the patient expectorates large quantities of a frothy, serous fluid. The fluid streams from the nose and mouth in severe cases with the most agonizing dyspnea. A collapsed pulse, weak and thready, follows. In fatal cases, death from asphyxia results. The amount expectorated may be very great. In my own case over 500 c. c. was measured. Schutz's case expectorated 1,500 c. c. In the meanwhile, over the affected lung, or both lungs, characteristic rales at first crepitant and subcrepitant, later coarse and fine, moist bubbling rales are heard.

The treatment adopted on the onset of a pulmonary oedema should be, first, to elevate the foot of the bed a considerable distance, in order to assist by gravity the escape of the fluid from the lung, lest the patient drown in the fluid, as in our own case. Cold to the chest should be of value; stimulants would avail nothing. In the event of the occurrence of a similar complication, I should resort to a bleeding sufficient to materially reduce blood pressure; artificial respiration is the extreme measure.

From the experience of the reported cases we may reach the following conclusions:

1. Albuminous expectoration usually follows the removal of large quantities of fluid from the pleural cavity.

2. It is apt to be caused by the rapid removal of the fluid.

3. It is usually inaugurated by dry cough, and this should therefore be kept in mind as a danger signal.

4. It is to be explained as due to an oedema from the intense congestion of the lung following its rapid expansion.

Therefore, to prevent the recurrence of this sequel, I have adhered closely to the following rules:

1. The tapping should proceed slowly and aspiration with the air pump is not to be practiced.

2. No more than 1,000 c. c. is to be removed at one sitting. The aspiration may be repeated, if necessary, after a lapse of twenty-four hours. Usually a single tapping is sufficient, the residual fluid will be absorbed once a portion has been removed.

3. Stop the aspiration at the onset of a slight, persistent cough.

Discussion.

Dr. E. J. Brown, Decatur: I would like to ask Dr. Miller whether he only uses a trocar in aspirating.

Dr. Miller, closing the discussion: Since the occurrences of these cases which have made a most profound impression on me, I have proceeded with aspiration with extreme caution. I use the negative pressure in the bottle, just sufficient to keep the air from being aspirated into the pleural cavity, but not sufficient to produce great suction.

SOME CONSIDERATIONS ON PHLEGMON OF THE ORBIT.*

BY CHARLES H. BEARD, M. D., CHICAGO.

Phlegmon, or cellulitis of the orbit, consists primarily in an inflammation of the orbital fat and connective tissue. The comparative frequency of the disease, and the multiplicity of causes that lead to it, should give it a certain conspicuity in the daily work of all classes of physicians, while the gravity of the affection as regards the dangers to the eye, and even to life itself, make its earliest possible recog-

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nition the first principle of success in its treatment. For these reasons it would seem it is particularly incumbent upon the general practitioner, and mainly so upon him whose labors are in the country and in the small towns, to be ever on the lookout for signs of phlegmon of the orbit. Many of his patients have neither the opportunity nor the habitude of consulting a specialist in any branch of medicine, or the dentist, hence, are more prone to neglect of the many ills which give rise to the malady in question. The victims of phlegmon of the orbit embrace all ages and all conditions of life. It may develop slowly or rapidly. The first signs noticed are slight pains in the side of the head on the affected side, and swelling of the lids. In the mildest forms these may be the only symptoms. In proportion, as the case is more severe, there will be greater pain in and around the eye and in the adjacent side of the face and head, often of the kind termed neuralgic; and either described as a steady ache, or coming in paroxyms, and called "shooting." Not infrequently double vision is an early sign. The pain increases, the swelling of the lid becomes more and more pronounced—the upper one growing hard to the touch and of a livid tint. The conjunctiva puffs up around the cornea. The eyeball becomes more prominent than its fellow, an exophthalmos that can not be reduced by pressure of the fingers upon the lids, and the pressure causes pain. The globe frequently bulges forward to such an extent that the lids can no longer cover and protect the cornea, and the swollen conjunctiva projects, in ugly folds, from the palpebral fissure. The displacement of the eye follows also whatever lateral direction the swelling from behind imparts to it. With the exaggeration of these symptoms the movements of the globe become more and more restricted until absolute fixidity is reached. With this stage comes dilatation of the pupil, from pressure upon the ciliary nerves, and stasis of the retinal circulation from strangulation of the optic nerve—as revealed by examination with the ophthalmoscope. Loss of sight, more or less complete and more or less permanent, is a frequent accompaniment, even when the cornea and other media remain transparent and the ophthalmoscopic examination is negative. The formation of any considerable quantity of pus, as evinced by fluctuation, and by the "pointing" of an abscess, is by no means a constant occurence, especially in the earlier stages. Sooner or later there is pus somewhere in the orbit, and, if left alone, it would, in most instances, find its way out, usually through the skin of the lids or through the conjunctiva. In the worst instances the cornea and the protruding conjunctiva are destroyed through exposure and necrosis, and even the lids become necrotic and slough away. In addition to these local symptoms the severe cases are attended by the general symptoms characteristic of acute inflammatory processes—chilliness in the beginning, fever, great restlessness, inattention to surroundings, delirium, and, finally, by a state of general adynamia. The disease is rarely bilateral, save when it is the result of facial erysipelas.

The complications and dangers of orbital phlegmon may be thus classified:

1. *Troubles mainly mechanical,* or those due to swelling and compression of the tissues, such as strangulation of the retinal and choroidal circulation, resulting in the death of the nervous and epithelial elements of the retina, followed by ascending atrophy of the optic nerve. Necrosis of the cornea, conjunctiva and lids. Through the exophthalmos comes drying and gangrene of the cornea and conjunctiva. Lastly, trophic disturbances, like neuro-paralytic keratitis, etc. These are local.

2. *Those due to propagation of the infection,* among which are suppuration of the cornea, exudative inflammation of the choroid, and of the retina, panophthalmitis, thrombo-phlebitis of the veins of the globe and of the ophthalmic vein and its connections; septic meningitis, and general septicemia. These are both local and general.

3. *Those due to toxemia.* The most notable of these is the loss of sight, varying

from slight amblyopia to complete amaurosis, and which is apt to be out of all proportion to the apparent gravity of the inflammation. The poisons generated affect locally not only the optic but the other nerves of the orbit.

Mentioned somewhat in the order of their frequency the commoner causes of phlegmon of the orbit are:

1. Septic inflammation of the mucous membrane of the cavities of the face, including the middle ear and the lacrymal canal.

2. Septic diseases of the skin over the contiguous area, or of that drained by the branches of the ophthalmic vein.

3. Wounds, operative and accidental, of the orbit and its vicinity.

4. Quite a number of general diseases, the most prolific being syphilis, tuberculosis and rheumatism.

5. In this class, all by itself, may be put the unique disease, parotiditis, which has achieved some notoriety in the causation of orbital phlegmon.

To the first category belong the various forms of so-called catarrhal and of the suppurative diseases of the cavities mentioned, and the complications to which they lead, such as caries of the neighboring bones and of the teeth. Exposures to severe cold has many times been the forerunner of orbital phlegmon by reason of the resulting acute inflammation of the upper air spaces. As to the sinuses, the origin of the infection is most often in the frontal, then in the three divisions of the ethmoidal, then in the maxillary, and, least often, in the sphenoidal. Empyema of the frontal and ethmoidal cavities can often be discovered by redness and tenderness to pressure over them in time to forestall the orbital complication. Alveolodental caries may act directly as a cause, or indirectly through infection of the maxillary sinus. It will be remembered that the roots of the bicuspids, and of the first molar teeth, sometimes penetrate the bony floor of the antrum of Highmore. Notable among the microbes that infest the sinuses, and through them gain access to the orbit, are those of influenza, diphtheria and pneumonia. So likewise with the infection of the exanthemata, such as scarlatina and typhoid. Among the rare diseases in this class are glanders and its chronic form, farcy.

The most prominent of the affections in the second class are facial erysipelas (streptococcus) and furunculosis (staphylococcus). Rare in the second class are malignant pustule, or anthrax, and carbuncle.

With regard to the third class, viz., operations and injuries as a source of phlegmon of the orbit, it stands high in point of frequency. The operations that figure most are those upon the lacrymal apparatus, chiefly through wounding the mucous lining of the already septic canal, or through opening the tarso-orbital fascia in these procedures. Concerning the general diseases as cause of orbital cellulitis, syphilis, directly or indirectly, is responsible for more cases, perhaps than are all other causes combined. Aside from its direct tendency to produce osteo-periostitis of the walls of the orbit, syphilis is a prime factor in the etiology of a large percentage of the diseases peculiar to the cavities of the face, and which stand first in causative relation to phlegmon of the orbit. Indeed, a number of general diseases are, first and last, concerned in the pathology of these mucous cavities. Moreover, any infectious disease that is capable of giving rise to metastasis, as, for example, puerperal septicemia, may be the cause of plegmon of the orbit. Tuberculosis, in its direct action through the general circulation, is very like syphilis in its manner of producing phlegmon of the orbit. Both are prone to attack the bony structures and their covering—in this connection the bones of the orbit—the osteo-periostitis eventually leading to the formation of sequestra.

There are three routes by which the infection, be it microbian or not, is supposed to travel to the orbital fat, to-wit: By the blood vessels, by the lymphatics and by continuity of tissue. The one chosen, in any given case, however, it is seldom easy to determine.

Among the things that may be mistaken for phlegmon of the orbit are, thrombosis of the ophthalmic vein, gumma, the gummoid growths of tuberculosis, malignant and other tumors, such as sarcoma, cysts (dermoid, sebaceous and echinococcus), hemorrhage into the orbital tissues, pulsating exophthalmos and exostosis of the walls of the orbit. The affection under discussion is oftenest, perhaps, to be differentiated from that dreadful malady, thrombo-phlebitis of the orbit. Here, too, there is a swelling of the lids, but it is usually softer, and the overlying skin is less inclined to lividity. Chemosis of the conjunctiva is most marked, but is of a curious, frothy appearance, and the exophthalmos is peculiar in that it is direct; i. e., the globe is not displaced laterally or vertically, but straightforward, and its mobility is less restricted. No pus forms. The ophthalmoscope early reveals disturbance of the retinal circulation; that is, palpillary stasis and numerous retinal hemorrhages. The general symptoms are much more accentuated from the start. A chill and high temperature usher in the attack. About the third or fourth day the disease will have traveled around, by way of the cavernous and coronary sinuses, and the same signs are manifested on the opposite side. Death is almost certain.

New growths of the orbit occasionally simulate very closely in their traits, the affection under consideration, and when of rapid development are distinguished with difficulty, sometimes only after a long interval of observation. Large doses of the iodide of potassium will not infrequently clear the diagnosis in these lingering cases. Of course, the livid skin, the great chemosis and pus are mostly absent. The history will often solve the problem. In chronic exophthalmos the absence of adenopathy tends to exclude sarcoma. A large hematoma of the orbit produces diplopia, exophthalmos, and, sometimes, amblyopia, but the other symptoms are wanting, and usually there is a history of concussion, as from coughing or sneezing, a fall or a blow. The subject is likely to be elderly, and with degeneration of the vascular system. Pulsating exophthalmos is detected by the throbbing, the *bruit* and the history. Exostosis of the orbit is characterized by slowness of growth and freedom from pain and inflammation. There is exophthalmos without diplopia and without limitation of the ocular movements. The growth is so gradual and so slow, and the physiology of the parts is so little disturbed that they adapt themselves to their new relations and their functions are not interfered with. Palpation will often reveal a cluster of stony lobules.

The treatment is, in a sense, and to a degree, prophylactic as well as curative. Given, for instance, a suppurative sinusitis, particularly one in which a nasal pus discharge has suddenly ceased, prompt treatment of the cavity at fault would often serve to prevent orbital phlegmon. The same with regard to defective teeth, especially those whose roots are diseased and situated beneath the maxillary antrum. Immediate extraction, followed by antiseptic treatment of the resulting cavity, are indicated as preventives of orbital cellulitis. All pustules, boils, infected wounds, bites of insects, inflammations, etc., affecting the skin of the face, may be deemed as threatening, more or less remotely, the production of phlegmon, or, worse still, thrombo-phlebitis of the orbit, and are to be dealt with accordingly. Fresh wounds in this region need special care as to cleansing, closure and occlusion. The latter to be accomplished by a well fixed dressing or by collodion. In surgical operations upon the eye-ball and its appendages the tarso-orbital fascia, which is the safeguard of the orbital fat, should be conserved whenever possible, and, when wounded, the injured parts should be thoroughly irrigated with an antiseptic solution, and the opening in the fascia closed, when practicable, by means of absorbable sutures. In probing and syringing the lacrymal canal false passages are to be strenuously avoided, and *never should use of the syringe follow immediately upon that of the probe,* for, in these ways, septic material from the canal is brought into contact with the surrounding cellular tissue.

Suspected foreign bodies of the orbit are to be sought, if need be, with the X-rays, and removed.

The curative treatment is both medical and surgical. The medical both local and systemic. Chief among the local medical measures are the brief application of heat, moist or dry, or the prolonged application of cold, to the lids, and of leeches to the temple, and instillation of a drop or two of 5% to 10% of the solution of dionin. When the proptosis attains the degree that means exposure of the cornea and of the conjunctiva, these parts must be protected by a thin layer of cotton kept wet with boric acid solution. This, in turn, should be covered by a bit of gauze well anointed with sterile vaseline. Hygroscopic dressings are not admissible. Frequent, copious douching with warm boric or normal salt solution is always beneficial.

The systemic treatment consists of remedies *externally* applied, such as inunctions of mercury and of quinine: *hyperdermically,* as solution of pilocarpin carried to the point where it produces free sweating and salivation. It is well, also, to try, on occasion, an appropriate antitoxin, as, for example, the anti-streptococcus serum. *Subconjunctivally,* as solutions of sodichlorid and of the salts of mercury. These measures are specially indicated in the early and middle stages, and throughout in those subtle cases of amblyopia from toxemia and from lymphangitis, unaccompanied by the other more grave phenomena. *Internally* administered, for the first period, greatest reliance is put in small, repeated doses of calomel, free saline catharsis, and the systematic use of full doses of salicylate of sodium. For the advanced cases of the worst type supportive treatment is required.

Rest, in bed, and absolute quiet are among the things to be insisted upon.

Surgical treatment is applicable mainly when the local manifestations are pronounced and are resorted to, first, to obtain relaxation of the swollen tissues in order to prevent, or repair, damage from the mechanical effects referred to in class 1; second, for the evacuation of pus. In view of the very serious consequences that may accrue to both sight and life one is not justified in adopting an expectant attitude in the treatment. As soon as the swelling threatens injury, free incisions are to be made in the locality most involved, regardless of the formation of pus, and sufficiently deep to drain the infiltrated parts, even if they penetrate almost to the apex, and the wounds are to be kept open by strips of gauze, *lightly inserted*—not crammed tightly. The incisions are best made with a long, slender, sharp bistoury, either straight or slightly curved, or a full sized Beer's knife. They can be started from the conjunctival sac for relief of chemosis, but for the deeper portions of the orbit they should include the skin. The knife should rather hug the bony walls of the cavity than to encroach too much upon the soft parts, and, it goes without saying, the lacrymal gland, the more important nerves, vessels and muscles must be avoided whenever possible. The most suitable sites for the profoundest incisions are just beneath the middle third of the eyebrow, and any point along the lower rim of the orbit from that perpendicular to the wing of the nose to that on a level with the outer canthus. Bleeding is inconsiderable in proportion, as the tissues are tense, or lardaceous.

When it is evident that the patient is suffering from pyemia, and improvement does not follow attention to more accessible parts of the orbit and sinuses, one need not hesitate to open up the retro-bulbar orbital cavity by resection of its outer wall after the method devised by Krönlein, of Zurich, or after that of some modification of this operation. It is possible, in this manner, to get at an accumulation of pus, or at an infiltration, or other obstruction, around the optic foramen, or at a spontaneous pus opening in the posterior ethmoid cells, or the sphenoidal sinus, that could not otherwise be reached. The operation is formidable to one who has never made it, but it is neither difficult nor dangerous, and should only be considered as *another* means—not necessarily a last re-

sort—of warding off things infinitely worse, as, for example, septic meningitis, intracranial thrombo-phlebitis, or atrophy of the optic nerve.

NERVOUS CASES FOR THE GENERAL PRACTITIONER.*

BY JULIUS GRINKER, M. D.

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The cases I am about to present are interesting not only to the general practitioner but, I believe also, to the neurologist. While they are considered among the most common, some of these present rather rare manifestations of common disorders.

MENOPAUSE NEUROSIS.

Case 1. Under menopause neurosis we understand the symptom complex of both neurasthenia and hysteria frequently found in women at or about the menopause. The patients are usually women from forty-five to fifty years of age who have perhaps shown nervous tendencies all through life, but may have never had a distinct neurosis. At the period mentioned a certain number of women develop symptoms of fatigue, indefinite fears, vaso-motor troubles, the so-called sweats and hot flashes. Simultaneously there may appear insomnia, pressure headaches or so-called nervous headaches or even headaches of the clavus hystericus type. The patients are easily frightened, easily excited and consider themselves invalids. The lady before you is forty-six years of age and presents no distinct neurotic history. Her menstrual irregularities began about two years ago, at which time she became nervous and excitable; she suffered from headaches more or less constantly, was extremely fatigued upon slight exertion, was constipated and developed hot flashes and cold perspirations with tremblings. An examination of her secretions and excretions yields negative results. There are no respiratory or cardiac changes with the exception of slight arterio-sclerosis. The reflexes are somewhat exaggerated, but no abnormalities can be found in her nervous system which would in the slightest degree indicate the existence of organic disease. The diagnosis, therefore, can be made by positive findings that are most subjective and by exclusion of organic disease. How long this condition will last I am unable to state. It may last from five years to five months to five weeks. While under our treatment she has improved considerably. The treatment consisted in attention to the bowels, and the administration of nerve sedatives in the form of sodium bromid, fifteen grains three times daily. Our aim is to ameliorate symptoms for a certain length of time until this critical period shall have passed, when as a rule recovery ensues. While it appears that we are unable to shorten this period of ill health by a single day, yet are we able by judicious management to preserve great relief to these sufferers.

HYSTERIA.

Case 1. It is a well-known fact that there is a tendency among a certain class of practitioners to call everything hysteria which they do not understand. Nothing is more erroneous than this pernicious habit of covering one's ignorance. We do know positively that hysteria is as much a disease as tabes dorsalis, that it has as distinct a symptomology as for instance lobar pneumonia and that with but little effort it can be definitely diagnosed. The patient I wish to present is a lady of about 32 years of age, who has been nervous from early youth without having a neurotic ancestry. Several years ago she had an operation for hernia. Since that time her nervousness has increased. This is a typical case demonstrating the two classes of symptoms found in hysteria: the so-called paroxysmal and the inter-paroxysmal symptoms. Her paroxysms appear in typical convulsions of the type so well described by Charcot. Excitement or worry of any kind throws her into a fit of tonic rigidity. stiffening of the upper and lower extremities. The patient never

*Presented at the October 1905 Meeting of the Northwestern Branch of the Chicago Medical Society.

falls, simply lets herself down gently. After this tonic stage there appears a stage of large movements, during which she throws her hands and feet about in all directions. Any attempt on the part of sympathizers to bring her out of the attack, such as rubbing her hands or holding down her limbs usually results in still more violent and grotesque movements, so that often even four or five robust men are unable to overpower this frail woman. Of late the attacks just described have diminished in intensity and frequency and an abbreviated type of convulsion, the so-called abortive form has succeeded the former violent attack. During these paroxysms she trembles all over, then experiences a fluttering about the region of the heart, followed by a feeling of constriction about the throat, the so-called globus hystericus; then appears a throbbing pain on the vertex of the head and around the temples. A profuse perspiration usually winds up the attack. The patient positively affirms that she has no domestic troubles, but that her adopted child may throw her into a spasm by simply disobeying her or by being unruly in the slightest degree. Inter-paroxysmally she suffers from nervousness, restlessness and is easily frightened. Trifles have a tendency to make strong impressions on her mind. Upon an examination we discover absolutely nothing indicating organic disease of the exaggerated. There is no form of paralysis or paresis, nor in-cordination. An examination for sensory disturbances, however, reveals various hyperalgesic spots: one on the vertex, no larger than a half dollar which is painful on pressure and tender to the touch; another between the shoulder blades and one in the region of the right ovary, the so-called "ovaries" of the French and Germans. A very interesting symptom in this case is the right-sided complete hemianesthesia affecting all qualities of sensation. As you observe I am now sticking a needle into her skin and the patient evinces no sign of pain. I do the same on the lower extremity with a similar result. The patient is blindfolded and therefore cannot see which part of the body I am examining. While the slightest touch of any portion of the left side of the body is immediately noticed and the point of a pin readily perceived the entire right side is sensitive to pain and temperature, although touch is only reduced on that side. There is no contraction of the field of vision, no inversion of the color fields and none of the other stigmata of hysteria is present. We have then a case of well defined hysteria with the interesting stigma of hemianesthesia, which case approaches somewhat the classical type of Charcot. The four stages of the convulsion described by the great French neurologist are rarely or never seen in this country and in northern Europe, although that form of hysterical paroxysm seems to be prevalent in the Latin countries. Of the convulsive disorders of hysteria we in this country usually encounter the so-called abortive type of the major convulsion. In many instances, however, we find the subjective signs of hysteria without any objective sensory disturbances and without motor disorders.

HYSTERICAL PARAPLEGIA.

Case 3. The patient who walks with crutches and to all appearances is paralyzed, presents one of the unusual forms of paralysis of motion superinduced by psychic or physical trauma. About seven or eight years ago while occupying a position as domestic she quarreled with her employer. During this altercation she received a blow over the right eye which caused a contusion and almost instantaneous blindness in the same eye which disappeared within a few weeks, but vision in that eye was defective for about two years. A few months after the receipt of the injury there was paralysis of the left upper extremity. This, too, suddenly disappeared, but the right arm in its turn became paralyzed and recovery ensued in the same manner. For the past three years both lower extremities have been paretic so that she is unable to walk without the aid of crutches and then very imperfectly. An examination for visceral or organic disease reveals negative findings. The upper extremities as well as the face and eyes are

perfectly normal. The lower extemities show no form of wasting. The reflexes are normal but slightly exaggerated. There are no Babinski, Oppenheim or Gordon signs, no ankle clonus on either side. Sensation is normal in every respect. Patient appears well nourished, presents no anomalies of mentality, nor somatic signs of any kind. The usual stigmata of hysteria are not present in her case. She has been an inmate of the Cook County Hospital and the Dunning Hospital more than once and is now a patient at the South Side Free Dispensary. While at the County Hospital I used suggestion in her case and succeeded in hypnotizing her with the result that for a little while she walked without crutches across the ward, but upon my leaving she immediately relapsed. She has never entirely recovered confidence to walk the street without crutches. This type of hysteria, although rather rare, is found both in men and women and usually appears in the form of so-called monoplegia. It is considered one of the most intractible forms of the disease and constitutes one of the most prolific causes for litigation, as most of these cases are superinduced by trauma. In this category belong many of the street car accidents which from a mere bruise or other insignificant trauma occasionally result in a paralysis of the functional type.

EPILEPSY.

Case 4. The patients I am about to show do not present rare types of the disease. However, epilepsy is always interesting, first because of its unknown etiology in most cases; secondly, because of the as yet unknown pathology; thirdly, because of mistakes in diagnosis; fourthly, because of unsatisfactory results in treatment. The first patient is a boy fourteen years old with a history of syphilis in the mother. He appears idiotic, saliva constantly dribbles from his mouth and he acts rather silly. His sister, however, thinks he is very bright, a mistake too commonly made by parents and relatives of idiots. Occasional flashes of intelligence in idiots and imbeciles are taken by them as signs of genius. This boy developed epilepsy several years ago after an acute illness of short duration. His fits are of the genuine idiopathic type of epilepsy and in his case usually occur in groups from two to twelve. There are intervals between attacks varying from days to weeks. The spells, however, have a tendency always to appear in the multiple form. Treatment has somewhat reduced the frequency of these attacks. It consisted in the administration of bromides and iodids, the last drug being given because of the specific history in the parents. It has been stated on good authority that in epilepsy due to syphilis in the parents the iodids do good. This case demonstrates that the bromids alone are inefficient and that the addition of iodids to each dose of bromid has been of material benefit.

EPILEPSY, GRAND MAL AND PETIT MAL.

Case 5. This case demonstrates the occasional occurrence of epilepsy in infants or at least indicates the origin of epilepsy in the so-called teething convulsions. The patient who has a good family history was normal up to the age of ten to eleven months when teething convulsions of a violent type developed. The convulsions persisted, however, long after the baby cut his teeth. At first they recurred almost daily, later they appeared in intervals of one month. These convulsions were of the epileptic type with the short tonic followed by the longer clonic convulsions, with foaming at the mouth, biting of the tongue, drowsiness regularly following these attacks. The epileptic fits continued at irregular intervals until about five years ago, when the mother felt overjoyed at the fact that her boy was cured. She noticed, however, at that time a different type of spasm. The following is a description of the mild fits: The patient suddenly turns pale about the mouth, assumes a vacant stare, sometimes smacks his lips, drops articles he may hold in his hands or, if speaking, interrupts the conversation, and the attack is over. These spells never last more than one minute. Since the appearance of these attacks five years ago the patient's mentality has somewhat suffered.

He is quite listless, does not get on at school as well as formerly, is very timid. He never was destructive and gives one the impression of a mild type of imbecility. Examination for organic nervous disease reveals negative findings. In connection with this case it is interesting to note some of the stigma of degeneracy sometimes found in epilepsy. The patient's ears are rather high and too far backward. The lobules are adherent to the skull. The Darwinian tubercule is well marked in each ear. The palate and teeth show no abnormality, but the chin is narrow and prolonged out of proportion to the rest of the face. The head appears flattened from side to side, and altogether may be called microcephalic. These forms of epilepsy are more serious than the convulsive type, notwithstanding the opinion held by some practitioners to the contrary. There is usually more mental impairment in cases of *petit mal* and treatment is not as satisfactory. The so-called automatic states of epilepsy are more common in petit mal and even crimes of a most horrible nature have been committed during these dreamy states accompanying or following petit mal attacks of epilepsy. The ordinary treatment with bromids while it has a salutary effect in most cases of grand mal is not as effective in the forms of petit mal. Our case, however, contrary to my expectation has greatly benefited by treatment, as he has been free from attacks for two months when formerly spells would appear almost daily. The treatment consisted in the administration of twenty-five grain doses of sodium bromid, taken three times daily after meals.

PERIPHERAL FACIAL PARALYSIS.

Case 6. The patient is fifty-five years old, a laborer, with no bad habits and a good ancestry. About seven months ago he exposed himself to a draught of cold air, which seemed to have struck his left side particularly. The following morning he noticed a peculiar "wooden" sensation in the left half of his face and the mirror informed him of a deformity, a sort of "twisting" of the entire face to the right. He appeared at my postgraduate clinic one week afterwards, where I recorded the following: All muscles of the left half of the face are involved; those of the forehead as well as the lower facial muscles. The affected side is perfectly motionless and expressionless, the naso-labial fold on that side has entirely disappeared and the left angle of the mouth droops. The nose deviates toward the sound side and the left nasal antrum has entirely collapsed. The eye-brow of the left side stands about one inch lower than the sound side. The left eye cannot be closed and tears constantly run down the cheek, due to the ectropion that has resulted from the paralysis of the palpebral sphincter. In speaking, the left side weakness becomes more apparent still and whistling is impossible; the cheek of the paretic side bulges out like a fish bladder and the patient can only frown with the right side of the face. An electrical examination with galvanic and faradism reveals the typical complete reaction of degeneration in the paretic side. Taste was impaired in the anterior two-thirds of the tongue. The diagnosis was: Severe case of peripheral facial paralysis, with an unfavorable prognosis as regards duration. At the present time (seven months after onset) the paralysis is but slight, but still recognizable. When the face is at rest but little asymmetry can be noticed, but as soon as the patient begins to speak, attempts to wrinkle his brow, shows his upper teeth, etc., the paralysis becomes evident. He can now almost entirely close his left eye and Bell's phenomenon can no longer be demonstrated. I have no doubt he will continue to improve, although he presented a very unfavorable case. Most cases of facial paralysis, the so-called Bell's palsy, recover much sooner. The treatment administered was, at first large doses of salicylate of soda, later strychnine sulphate in grains of 1/30 three times daily, combined with electrical treatment three times weekly.

INCIPIENT TABES.

Case 7. The patient is forty-two years old, unmarried and presents the following

history: About fifteen years ago he had gonorrhœa and a doubtful chancre which lasted from four to six weeks. He does not remember ever to have had symptoms of secondary or tertiary syphilis. He is very intelligent and apparently does not try to conceal the facts. He admits to having led a life of dissipation for several years. About seven years ago certain pains made their appearance in his lower extremities which came on rapidly and would just as rapidly disappear, leaving the parts affected somewhat tender. These were considered rheumatic by some and neuralgic by others. At about the same time an ulcer developed under the base of the second toe on the right foot which refused to heal under ordinary surgical treatment. At times it would heal, then would break open to again close for a short time. Several surgeons have been consulted and some called it a weeping tendon, others an osetomyelitis. There was so much ulceration that skin grafting became necessary, but this operation was a failure and finally the entire second toe had to be amputated. At the present time the patient is free from pain in the former seat of this trophic disorder. There is no doubt that he had a simple perforating ulcer of the foot, the so-called *mal perforans* occasionally found in tabes and in syringomyelia and less commonly in other nervous disorders. The patient is well nourished, although not robust, and presents few symptoms of tabes. His bowels are regular, his bladder is occasionally sluggish, so that he has to force out its contents, but as a rule the sphincters functionate normally. There is no girdle sensation, no anesthesia on trunk or extremities, no Biernacki nor Bechterew signs. The deep reflexes are so much reduced that they can be elicited only with Jendrassik's method of reinforcement. Inco-ordination is very slight in the left upper extremity, normal in the right and almost normal in the lower extremities. The gait is not ataxic. The Argyll-Robertson pupils are present and there is a slight difference in their size. Lightning pains are still occasional visitors. The patient has regulated his life so that he is free from responsibilities and cares and appears to enjoy fairly good health. The case is instructive as affording an example of tabes beginning with a perforating ulcer of the foot years ago and further that the reflexes are still present, although reduced, and that the other symptoms of tabes are ill-defined with the exception of the Argyll-Robertson pupils. But cases of tabes are recognized early nowadays because we are more familiar with the early signs of the disease.

TABES WITH OPTIC ATROPHY.

Case 8. The patient before you is a man forty years of age, who had an alcoholic ancestry, whose brothers and sisters were addicted to alcohol and who himself has been a hard drinker. His mother was an epileptic, but there was no other form of nervous disease in his family. Of venereal diseases he had gonorrhœa twenty-two years ago, chancroids twelve years ago and chronic urethritis about seven years ago. He positively denies syphilis. About two and a half years after one of his prolonged "sprees" he noticed a dull, heavy pain about the abdomen, which felt as though it encircled his body in belt-like fashion. A little later while in Texas friends noticed something peculiar about his gait which the doctors attributed to nervous debility. He never had lightning pains, nor attacks of gastric crises; he could walk in the dark the same as always. About seven years ago an incomplete cataract appeared in the right eye which interfered somewhat with his vision in that eye. One year ago almost complete loss of vision occurred in both eyes so that he became unable to count fingers. He can barely tell the difference between light and darkness. At the present time he presents complete absence of the deeep reflexes in the lower extremities, a total double optic atrophy which shows the peculiar pearl gray appearance so often observed in tabes. There is only slight muscle and joint sense disturbance and Biernacki's sign can be detected on the right side only. The inco-

ordination in the upper and lower extremities is very slight. This is in accord with our experience in tabetic optic atrophy. Whenever optic atrophy occurs early or as the first sign of the disease the inco-ordination is either very slow in appearing or is not manifest at all.

TABES WITH CHARCOT JOINT AND PERFORATING ULCER.

Case 9. H. H., a German laborer, was well until about two years ago. At that time he went to bed well and discovered upon awaking the next morning that his left knee was swollen to about five times its normal size. In attempting to walk he had no difficulty, except that his leg made a peculiar angle with the thigh. Although the deformity became worse during the next few days, he never experienced pains in the parts affected. He denies venereal disease, but he has been exposed and is unmarried. He gives a history of pain in his abdomen and of lacinating pains in his lower extremities. Examination reveals a large oval swelling of the left knee which gives to the finger the impression of a bag containing pebbles and which seems to move in all directions. No amount of manipulation causes the slightest pain or discomfort. This is a typical Charcot joint and constitutes one of the trophic disturbances found in tabes. The patient has in addition a well-marked painless ulcer penetrating the plantar surface of the left foot over the large metatarsophalangeal joint. There are no tendon reflexes and Argyll-Robertson pupils are present. Tactile sensation is unimpaired except on penis, scrotum and over a small area just below Poupart's ligament. Pain sensation is diminished everywhere, especially on the left side of the thorax anteriorly. 100 State street.

PNEUMONIA IN CHILDREN.*

BY JOHN C. COOK, M. D., CHICAGO.

Pnuemonia in children owes its pathogenesis to the same micro-organisms and frequently runs a clinical course similar in many features to the disease in adult life, yet there are sufficient modifying conditions and influences that we feel justified in discussing it by itself.

Clinically, it may be divided into two great subdivisions, namely, Croupous or Lobar Pneumonia and Broncho Pneumonia (catarrhal lobular pneumonia).

While a child may have either form at any age, it is more susceptible to one or the other forms at different periods of life.

The bronchial variety takes prestige in the earlier stages. Of 426 cases reported by Holt 53 per cent was during the first year, with only 33 per cent in the second, and 11 per cent in the third year; 2 per cent and 1 per cent in the two succeeding years. Of 500 cases of lobular pneumonia by the same observer, 15 per cent occurred in the first year, 62 per cent in the second year and 21 per cent from the seventh to the eleventh years.

Thus it will be seen that bronchial pneumonia is the most common form of primary pneumonia under two years of age, and nearly the exclusive form of the secondary type throughout childhood. Of 500 cases taken from all sources:

Primary	29.6 per cent
Secondary to bronchitis	8.2 per cent
Secondary to and complicating measles	18.1 per cent
Complicating pertussis	13.3 per cent
Complicating diphtheria	8.4 per cent
Secondary to and complicating ileo colitis	3.8 per cent
Complicating scarlet fever	1.5 per cent

In the primary cases I have included the cases that accompanied influenza.

Bronchial pneumonia may be divided into two varieties, acute congestive and subacute secondary to some other pathological condition.

Of the acute congestive variety the onset is sudden, the temperature runs high, 104 to 107, rapid and labored respiration; the patient may early become cyanosed;

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pulse rapid, feeble and sometimes irregular, running from 150 to 200, with the respiratory movement reaching 100 per minute. Death may occur in the first twenty-four or forty-eight hours, and unless one is alert and sees the case early and frequent, it will often go undiagnosed, being attributed in many instances to some other pathological condition.

However, if the patient survives this period and the disease passes from the congestive into the gray type, it runs a protracted and irregular course, with the temperature curve ranging from 101 to 104 or 105, with the respiration ranging 40 to 80, according to the amount of lung tissue involved.

Of the etiological factors of bronchial pneumonia, in the primary cases, living in bad hygienic surroundings and breathing vitiated air, intestinal disorders, sudden changes of temperature and influenza, play the heaviest role, although anything that reduces the system and lowers the powers of resistance can be recorded among the predisposing causes. Malnutrition, rickets, measles, pertussis, diphtheria and scarlet fever are the most frequent causes.

The pneumonia accompanying and following influenza while it is, for the most part, bronchial in character, is so distinctly a type of its own, both clinically and pathologically, that it might well be discussed in a separate class, the influenza bacilli being the principal pathological offender. While it is true of this, as of all the bronchial pneumonias, they are of mixed infection, the influenza bacilli is the predominating influence, and in many cases the pneumococcus is found in sparing numbers. The streptococcus is found in a majority of the secondary and a minority of the primary cases.

The following table from Holt will show the relative frequency of the different micro-organisms present:

	Cases	Cases	Cases	Cases
The pneumococcus was present in	67—primary,	24; secondary,	43; alone in	31
" streptococcus "	37	12	25	8
" staphylococcus aureus "	29	10	19	6
" staphylococcus albus "	3		3	
" bacillus pyocyaneus "	2		2	
" bacillus diphtheriae "	2		2	
" bacillus lactis aerogenes "	4	1	3	1
" bacillus coli communis "	1		1	
" proteus vulgaris "	1	1		
" saccharomyces albicans	1		1	

In the primary cases the bronchial tubes may not be affected in any perceptible space, the inflammatory process beginning in the lung tissue.

In the secondary cases the process begins in the larger tubes, as a rule, but may commence in the smaller ones. In either case it gradually extends to the tubes of the smaller caliber, finally involving the pulmonary lobules in which the tubes terminate. Death may occur at any stage of the disease, or the pathological process may be arrested and the case recover, resolution taking place before consolidation has been completed. In such cases resolution is rapid. If consolidation has been completed, resolution is much slower and two or three weeks may pass before it is completed. In many cases resolution is only partial and frequent relapses

occur, and finally may be followed by tuberculosis.

The prognosis is always serious in bronchial pneumonia, and in infants dangerous to life, depending on the previous condition of the patient and upon the character of the infection that the pneumonia is secondary to. In private practice the mortality is from fifteen to thirty per cent, according to the condition of the patient prior to the disease, and the season of the year.

In lobar or croupous pneumonia the picture, as well as the course of the disease and the pathological condition, is very different from the bronchial types. The onset is sudden, sometimes accompanied by a chill, but more frequently by a convulsion or nausea and vomiting. The temperature goes up to 104 or 105 and stays; pulse and respiration are both increased in frequency, and the relative ratio is changed. The child is sick and quite willing to be considered so and remain in bed. The face is frequently flushed and the desire for food is gone. The bowels may be constipated, but more frequently are relaxed — three to four green movements a day.

In 118 cases reported by Morris, the duration of the fever ranged from four to eighteen days, the average being seven days. The highest temperature noted was 107 and the lowest 103, and fell by crisis in 64 and by lysis in 29 cases.

The disease was located in the right upper and lower lobes in seven cases; the right upper and right middle in one case; the right upper and middle lower in two cases; the right lower and left lower lobes in five cases; the left upper and left lower lobes in two cases. A single lobe was involved in 86 per cent and more than one lobe in 14 per cent. The whole lobe was involved in 60 per cent and a part of a lobe in 40 per cent.

The pulse rate was between 140 and 180, and no case died in which the pulse rate was not over 140.

The respiration was between 50 and 80. No case died in which the respiration was below 55. 26.3 per cent died.

The complications of pneumonia are in so many instances of such a grave character and their management so different from the original disease that I will not attempt their discussion, but content myself with mentioning the more important ones.

In order of frequency of occurrence, pleurisy naturally heads the list, but many times goes unnoticed owing to the very slight disturbance it causes in a large number of cases. It is only when there are large effusions that require surgical interference or become septic and an empyema results, that the consequences are grave enough to merit special attention.

Meningitis or meningeal irritation has been of more frequent occurrence and more severe in character the past season than the classic literature would lead us to expect.

Both endocarditis and pericarditis are complications sometimes to be met with, but we more often meet them in the later years of childhood than in infancy.

Kidney irritation with albumen and casts is sometimes encountered, but is usually of short duration.

Jaundice is one of the rather infrequent complications and, as a rule, of short duration.

Gastro intestinal irritation with its consequent meteorism is a condition to be reckoned with which gives us, in many cases, a good deal of anxiety. Where a large area of lung is involved respiration is rapid and labored. To have the intestinal canal fill with gas to the extent of pressing on the heart and diaphragm is a serious matter.

Delayed resolution is a condition occasionally met with and is a source of anxiety until the lung clears up.

Last but not least of the complications is a pneumococcus septicæmia that may accompany a very small lung involvment and prove serious.

Otitis media occurred in 17.8 per cent of Morse's cases. Both ears were involved in fourteen cases and one ear in seven cases.

The diagnosis of pneumonia in children

is frequently a serious problem. The cardinal signs are not always present, especially in infants.

The temperature curve affords us little help, especially in the onset. The pulse alone is of little aid, but the combination of the pulse and respiration are of the greatest assistance, the normal ratio being 1 to 4, and any deviation from this ratio, even as slight as 1 to 3½, 1 to 3 and especially 1 to 2, is considered by Northrup to be pathognomonic of pneumonia in children. This in connection with the high leucocyte count is of the greatest value in making a diagnosis in atypical cases. The count is increased about 24000 above normal, making it about 30000 (Hektoen).

The physical examination is many times difficult and unsatisfactory. Percussion is not of much value before the fourth or fifth day, or in central pneumonias or where the locus morbi is under the shoulder or along the spinal border of the lung.

Owing to the thinness of the chest walls and the facility with which they transmit vibrations, oscillation is much more satisfactory, as a rule. Crepitant rales can always be heard at some stage of the disease, but it must be remembered that they are not constant, and frequent examinations are necessary to find them.

Measurements are not as valuable as in adults except where a large area of one lung is involved.

The pain element of pneumonia is significant, but it is as liable to be located in the abdomen as the chest, and especially in the region of the appendix.

Inspection is of value, especially to distinguish between thoracic and abdominal disorders, the diseased part always being the least active. Palpitation affords us a ready means of locating small areas of disease in the thoracic cavity.

To differentiate between lobar and bronchial pneumonia one must take in account the age at which the child is susceptible to either form of the disease. This is well illustrated by the following table:

	BRONCHIAL PNEUMONIA.	LOBAR PNEUMONIA.
During the first year	224	76
During the second year	142	309
During the third year	46	
During the fourth year	10	
During the fifth year	4	
During the seventh to eleventh years		104
During the twelfth to fourteenth years		11 (Holt)

This shows a greater susceptibility to the bronchial type in the first year and a tendency for the disease to assume the lobar form as age advances. Also as to whether it is primary or secondary to some previous existing disease. The onset and temperature curve are valuable indicators.

To differentiate between pneumonia and appendicitis is important, for not a few cases have been operated on in recent years for appendicitis who really had pneumonia. Here one must depend upon the respiration and pulse ratio, as the leucocyte count is equally high in both, and, if necessary, a blood culture should be resorted to.

The prognosis in bronchial pneumonia is always serious, but much depends upon the previous condition of the patient, the present surroundings, and as to whether it is of primary or secondary origin.

During the first year 202 cases gave a mortality of.....66%
During the second year 102 cases gave a mortality of..35%
During the third year 33 cases gave a mortality of.....33%
During the fourth year 6 cases gave a mortality of.....16%
During the fifth year 3 cases gave a mortality of..... 0%
—*Holt.*

The same author says of 1295 collected cases of pneumonia 39 died, giving a mortality of three per cent.

In Morse's 118 cases 31 died, giving a mortality of 26.3 per cent.

I believe that all authorities agree that the mortality is in inverse ratio to the age, at least in the very young. The mortality is increased where the temperature runs high. The occurrence of vomiting, diarrhœa or

convulsions late in the diesase is unfavorable.

It is not surprising that a rather wide range should exist in the mortality reports when one takes into account the different views of the treatment of pneumonia in children — Holt with his steam inhalation, Northrup with his refrigerating treatment and others with no treatment at all. But there is one thing I believe all agree on — that the patient should have the best and purest air obtainable and plenty of it, and that there is no specific. Yet, if there is little to do for the disease, there is much to do for the patient. You are the pilot of a heavy ladened ship in a rough sea, and many times all of your ingenuity will be taxed for ways and means to keep her abreast of the storm.

There is probably value in most of the modern methods of the treating of pneumonia, if we will only select the method best suited for each case. The inhalation of steam, as advocated by Holt, has its place and is valuable in the acute congestive case, and affords relief and comfort quicker than anything else. The cold fresh air advocated by Northrup acts admirably in the sthenic cases.

No antipyretic except water and an ice cap to the head should be used. If tubing is done, I believe tepid water will give as good results as cold with less shock to the patient. Plenty of fluid should be given. If not taken in food, as milk or broth, water should be insisted upon. If not tolerated by the stomach, high enemas of normal salt solution should be administered to keep up the balance of fluid in the system. This will enable the kidneys and skin to eliminate more toxic matter than any drug I know of.

Don't weight an over-taxed, feeble thoracic muscular system down with a heavy poultice or wrap a nervous child up in mustard. Keep a close watch of the heart. If the second sound is getting feeble, strychnine will serve you a good purpose. If the respiratory muscles are giving out, caffein and atrophine will help to bridge over. Above everything else, keep the alimentary canal in good order, and the patient nourished.

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THE PRACTICAL SIGNIFICANCE OF CERTAIN COMMON SYMPTOMS IN THE UPPER ABDOMEN.*

BY J. F. PERCY, M. D., GALESBURG, ILL.

The upper and righthand corner of the abdomen is a field of present-day investigation which promises valuable returns for all efforts made to clear up its symptomatology. It has fallen to the lot of a new candidate for honors in the field of human diagnostic investigation to aid in this beneficient work, viz., the skilled operating surgeon. Surgery today, in the hands of the competent surgeon, bids fair to state definitely the reasons for the existence of the symptoms in the upper belly, long recognized by the internist. But neither the internist nor the pathologist, dealing, as they must, with things unseen within the abdomen of the living, have ever been in a position to point out their true pathology. This surgical investigator of living human pathology, it is hoped, will succeed in doing for us in this region what he has been able to do in the lower belly and pelvis. The patients suffering from pathology in their liver and the gall bladder, the right half of the stomach, and the first portion of the duodenum are legion. True, there are other very important originators of pathology in the upper belly, viz., the pancreas and the right kidney; but my subject precludes more than the naming of these organs, because the task that I have set as the subject for this paper is "The Practical Significance of Certain Common Symptoms in the Upper Abdomen."

The first of these in importance is pain. Pain in the abdomen seldom indicates by its expressed location the point from which it originates. This fact has led some one to remark that the sympathetic nerve has no sense; meaning thereby that the point of pain indicated by the patient may have no

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reference to the pathologic entity which originates it. Ask the patient to indicate the point of greatest suffering, and in the majority the hand will move in an aimless way over the whole abdominal region. This is true regardless of the grade of severity, except possibly where the peritoneal involvement is slight. When the pain is severe, general muscular rigidity over the abdomen is the rule. When the lesion is only great enough to give a moderate degree of distress, the muscular rigidity is frequently limited to the region above the lesion. This point also is seldom accurately located by the patient. In the average chronic case not having an acute exacerbation, lesions about the gall bladder are less sensitive than those of the stomach. Lesions involving the pyloric third of the stomach and gall bladder can not well be differentiated by external manipulative methods alone. Although pressure applied over the lower costal arch on the right side, as pointed out by Eliot in the Medical Record for Feb. 6, 1904, has been found very helpful in about two-third of the cases in which the symptoms pointed to inflammation in the region under discussion.

Eliot has shown that costal resistance is likely to be just as marked as is that of the muscles lower down, when covering an inflammatory process. This is especially true in abscess of the gall bladder and cholecystitis. This diagnostic aid has been found useful in my examinations of this class of cases for many years, as it has undoubtedly to others, both physicians and surgeons; but it remained for Eliot to point out and extend its use. I have found it especially helpful in the pain of the upper abdomen, in which appendicitis was one of the problems in the diagnosis. Pressure over the right lower costal arch, which does not elicit pain, will almost certainly exclude acute gall bladder trouble. It is also interesting to note the difference in costal resistance on the two sides, when the right upper belly is involved in an inflammatory process.

Light finger percussion, which elicits pain, is another valuable method of localizing active inflammatory foci in patients who are not over obese. An ulcer in the stomach or duodenum can often be located in this way, and, when combined with the subjective symptoms present in the case, valuable information is obtained. It might be said, in passing, what has probably been said a great many times, or, if not said, certainly has always been understood by diagnosticians, viz., that a good diagnostician is self-made, and that a no small part of his skill is so subtle as to defy language to express it. The most that can be said is that diagnosis is the use in this day of the facts worked out by many observers, both clinical and laboratory, combined with the results obtained in the examination of many patients of one class. A combination of all these necessary and obtainable conditions will develop in the individual observer an educated instinct for diagnosis, which is invaluable.

Another source of pain is the distension caused by gas. Gas does not accumulate until the inflammatory condition, or its results, are great enough, as pointed out by Graham, to inhibit peristalsis. In this way can be explained one of the causes of the common symptom of distension in the upper belly, which makes the demand for the various anti-dyspeptic remedies. The more serious the localized inflammation the less peristalsis; the less peristalsis the greater the distension and pain which results from it. If this localized condition go far enough to perforate and the patient recover, it is at the expense of the adhesions which maintain the local lessened peristalsis; and an acute case is converted into a chronic one.

So far I have referred only to the pain which may result from lesions in the stomach or the dudoenum. But the same general symptoms may develop also from inflammatory conditions in the gall bladder, with or without gallstones. It is interesting to note the frequency with which the introduction of food or drink into this corner of the abdomen give rise to pain, or at least an expression of distress, when any one of the organs in this corner is the subject of disease. Nature tries to keep the parts at rest by refusing

to retain in the stomach either food, drink or medicines, and we have been very slow to comprehend the purpose of Nature in this particular.

Another source of pain in the upper abdomen is the contact of the gastric juice with an ulcer in either the stomach or duodenum. This pain is an interesting and characteristic symptom. It is not many years ago that some of us were calling the cases which came complaining of distress in the stomach when it was empty, neuralgia. We learned from our patients that the greatest relief from the pain was obtained by keeping small quantities of food in the stomach. There is probably such a disease entity as gastralgia, which is functional in origin; but we all now believe that in the vast majority of cases it is a symptom, where inflammatory changes is the definite and underlying cause. An ulcer of the stomach or the duodenum, in contact with the acid gastric juice, will undoubtedly account for many of the symptoms of pain in the region of the abdomen under discussion. To quote from Graham, who also discusses contact of food on the ulcer, as follows: "Pain is due almost wholly to the irritant action of the acids on the open ulcer, with the added element of spasm. The greater the quantity of liquid in the stomach and the higher the degree of acidity the more severe the pain. In other words, intensity of pain and degree of acidity run about parallel. The irritant action of the food as a cause of pain, by passage over the diseased area, can not enter into the question; because anything that diverts, dilutes, neutralizes or removes the acid liquid lessens or entirely relieves pain. Antacids, as a rule, quiet for a time and remove nothing; vomiting or irrigation of the stomach relieves by removing the offending acid; but no rough particles of food which could irritate are found."

Most of those who have written on this subject agree as to the frequency of the pain and the formation of gas complained of by patients suffering from lesions in the stomach, duodenum and gall bladder. The next most frequent symptom mentioned is vomiting. Among my own cases, however, nausea is more frequently spoken of than vomiting. Its relation to the injection of food, like that of pain, varies. Pain precedes it in the majority of cases, and it is the suffering from this that undoubtedly brings it on. If the ulcer is in the stomach, and is so located as to be brought early into contact with the acid gastric juice, then the nausea or vomiting will be spoken of as occurring within an hour or two of taking food; sometimes the patient will tell us that the pain comes at once. This is frequently due to gall bladder inflammation, and is especially common if there are adhesions about the gall bladder. If the ulcer is duodenal, then four or even six hours may go before the nausea may develop. If the nausea comes on early and is followed by vomiting, the rejected food will be but partially, if at all, digested.

An important determining factor here is the size of the stomach. If this is greatly dilated and, therefore, unable to pass its contents into the small intestine, the patient may suffer for hours; and then by vomiting or by the stomach tube be relieved of a foul, sour-smelling mass of undigested food containing quantities of mucus. Food coming from the stomach in such a state will exclude its ever having reached the small gut. This should be borne in mind; because, although the undigested mass may be removed four or even six hours after being taken into the stomach, it is evident that the latter organ is physically incapable of putting it into the duodenum. If it had, it would be a pultaceous mass showing digestion; so that the degree of digestion is a clue as to its ever having reached the small bowel.

Another interesting fact, that perhaps may not properly be spoken of as a symptom, is that these patients in the first months or years of their suffering from disease located in these organs, seldom complain of loss of weight. Note, please, that I say in the first months or years. In the beginning, the majority of them are able to maintain their bodily weight, and frequently even to gain; but finally either the impaired nutrition long continued, or the infections which result

from the solution of continuity in organs and tissues so richly supplied with lymphatics tells on the bodily weight, and they begin to fail. Recently I had a case (cholecystitis) that had lost thirty pounds in three months, and was still losing when he entered the hospital for operation. When this time comes in the history of one of these chronic sufferers, he always brings with him the suspicion of the probable beginning of a cancerous process, with all that awful word stands for.

Bleeding from ulcer of the stomach or duodenum has not, in my experience, been a prominent symptom except in the cases that have had a long history and are far advanced. Frequently they will tell you that years before they had a sudden and severe hemorrhage, but none since; and that practically they had not seen a well day since it occurred. But this failure, on the part of the patient, to note the occurrence of hemorrhage does not necessarily imply that it has not been present. Where laboratory methods are made a part of the investigation of this class, it has been found that a large percentage have blood in the stools; if in considerable amount, blood passing in this way may give the stools a meconium-like look, which is spoken of in the textbooks as tarry in character. Macroscopically, this same kind of stool can be produced by the infected bile which may be thrown into the bowel from a gall bladder, the subject of cholecystitis. In this latter class of cases the hematin crystals, which are present in the former character of stool containing blood, will not be found, because of the origin of the color-giving substance in the gall bladder. It is interesting to note that the pain and distress which may accompany these cases of cholecystitis will usually lead to a symptomatic diagnosis of ulcer of the duodenum or the stomach. But the internist or surgeon who has seen many cases of ulcer of the stomach and duodenum will not find it necessary in the great majority, to examine the stools for hematin crystals. Indeed, a careful history well taken will, in the majority, determine the diagnosis so that there need be no question as to the treatment which should be instituted.

These cases usually have periods in which there is an acute or subacute exacerbation of the trouble. At these times there is usually a moderate degree of elevation of the temperature from 100° F. to 101½° F. It rarely rises above this. The temperature curve not infrequently causes one to think of a possible tubercular element in explanation of its persistence. It reaches its maximum in the early afternoon, and gradually disappears toward evening. It differs, however, in that the 6 a. m. temperature is rarely found subnormal, except in the later stages of the condition, when general systemic exhaustion is pronounced. When this time comes, a subnormal temperature is the rule during the entire twenty-four hours. In addition to the temperature, at this time there is a moderate increase in all of the symptoms which have characterized the previous condition of the patient. There is a little more mental and physical depression; a little more localized distress in the upper right quadrant of the abdomen, especially after taking food, and in consequence of which there is a more pronounced fear of calling on the functions of the stomach, and with it the gall bladder. The patient is willing to drop his usual occupation, and, like a sick animal, seeks a warm and quiet place until the toxemia, which undoubtedly is at the bottom of his symptoms, is thrown off by whatever immunizing resistance he may possess. This is what I am pleased to call the gastric crisis of ulcer or cholecystitis. If resistance is good, the patient may recover his usual degree of health and drift along for weeks, months or years, until another paroxysm of the same kind and due to the same causes renders him inactive for about the same period as the previous attack. These cases are rarely diagnosed correctly, "biliousness" and "dyspepsia" being the words most frequently used as a descriptive of the diagnosis, and on which the treatment is based. But there comes a time in the life history of a large number where even a correct diagnosis is futile, as far as preserving the

life of the patient is concerned, because of alteration in the functioning tissues of the liver and pancreas, due to persistent infection. I believe, too, that further investigation will show that the results of this infection are chemical through the intervention of bacteria at work in ulcerating areas in the stomach, duodenum or gall bladder.

I have purposely avoided the consideration of other symptoms which you will call to mind as almost invariably present in the condition here discussed. Among these are pain radiating in the region of the right scapula or half way around the waist line on the right side; jaundice; the belching of sour gas; "cramp colic," which is a name descriptive of a condition frequently badly treated by the use of large doses of morphin. These patients are usually obstinately constipated. They often complain bitterly of a bad taste in the mouth and are aware of a foul breath. The abdomen is, as a rule, distended with gas, showing the lessened peristalsis. They are often more hungry than otherwise; but food gives them neither comfort, satisfaction nor nutrition.

To generalize further: The individuals who may suffer or are suffering from symptoms referable to the upper abdomen range in age from the young adult to those advanced in years. As to previous symptoms, almost anything may be true, and nothing may be true. In the majority, however, two words are used which are descriptive only in a symptomatic way, and from this standpoint have a long and useful career. I refer to "dyspepsia" and "biliousness," two words which we Americans have probably used as often as any two words in the language. Every patient suffering from a train of persistent symptoms heretofore known as dyspepsia has or has had either a gastric or duodenal ulcer, and is suffering from its sequel. Every patient suffering from recurrent attacks of so-called biliousness has either gallstones or a chronically inflamed gall bladder, which is another name for a chronically affected gall bladder. Unfortunately the class of patients which in one may seem to refer his symptoms to the stomach, in another practically the same symptoms will point to the gall bladder as the organ at fault. Fortunately, in the majority of cases, only one primary affection is present. Unfortunately it is not yet certainly known that the removal of the probable primary affection will permit of recovery from all its consequences. Frequently we will find an infected gall bladder (cholecystitis) and with it the stomach is dilated. The primary condition under these circumstances will be difficult to determine, even when the abdomen is open. Such difficulties in diagnosis do not militate against the clinician, as these conditions are purely surgical, and the differentiation in many cases, as well as the proper treatment, must be made on the operating table.

Localized peritonitis and recent adhesions, when the abdomen is open, will serve as infallible guides in the chronic cases with acute exacerbation; while enlarged lymphatics without adhesions will point the way in the more acute cases. Enlargement of lymphatic glands on the exterior of the body, as a result of infection of nearby tissue, has been noted for an indefinite period. Surgeons, however, were slow in recognizing the lymphatic enlargement found within the abdomen during exploratory operations as due to the same cause, viz., infections. Since the work of Poirier and those associated with him much has been done to advance our knowledge of the special anatomy of the lymphatics. Since their work appeared it has been a much simpler matter to determine the probable location of a lesion, the seat of persistent infection within the opened abdomen. The intra-abdominal lymphatics as carriers of infection open up an immense field for practical investigation as to the possibility of various recognized lesions, especially in the pancreas. Grossly we know what they can do in infections of the appendix, and as disseminators of cancer their work is all prevailing.

The writer has been interested for some years in the question of chronic infections of the liver from persistent gall bladder inflammations, with or without stones; and infections of this same organ as a result of

ulcer of the stomach or duodenum. He early learned, in his gall bladder work especially, that a certain small percentage of his cases would die by slow degrees regardless of the favorableness of the primary results following operation; and that a certain other class of nonoperative cases will die, with exactly the same symptoms, and when brought to the post-mortem table the pathologic findings are the same in both classes of cases. The following cases will, I think, illustrate this fact very well.

May 19, 1899, I operated on Miss C., aged 26, and removed a large number of varying sized so-called mulberry calculi. Previous to her operation she had suffered from the clinical symptoms of gallstones, together with a chronic cholecystitis. The liver was not enlarged, although notes of the case made at the time distinctly state that the whole liver region was tender to both percussion and pressure made over the costal cartilages. This case was drained and made a good operative recovery as far as the time spent in the hospital was concerned and afterwards while drainage persisted. But she never fully regained her health and finally died, twenty-two months after the operation, with every symptom of internal hemorrhage. Before this developed, however, she had the ordinary symptoms of a mild but persistent cholecystitis. An autopsy was made by Drs. Jesse Rowe and J. C. Creel, both of Abingdon, Illinois. They reported to me the findings as follows: About one quart of fresh clotted blood in the upper abdomen, the source of which was uncertain. A small, cauliflower-like growth surrounded the common duct, which was patulous. Several soft stones were found in the gall bladder, which was fastened to the anterior abdominal wall. The inner surface of the gall bladder was inflamed and roughened, and when stretched over the finger looked like the surface of a nutmeg. The bile was thin and tarry in appearance. The liver was not enlarged, but yellow, with a gross appearance of fatty degeneration. Unfortunately no specimens were preserved from either the liver or the growth about the common duct. About the time of the operation there was no appreciable growth about the common duct, and only the usual enlargement of the lymphatics, where sepsis is found in the gall bladder, was present.

My next fatal case came June 20, 1901, Mr. T., aged 77. He also had a history of chronic cholecystitis, with the ill health which it engenders, extending over a period of years. On opening the abdomen, a greatly enlarged gall bladder was found capable of holding nearly a quart of fluid, together with a single stone weighing forty grains, which was loose in the cystic duct. The fluid which filled the gall bladder was thin, black, degenerated-looking bile, which characterizes this class of cases. This patient's liver was enlarged and tender to both manipulation and percussion. Not to burden you with details of the post operative history, I will merely say that this patient died in twenty-three days following operation, with a continuation of the symptoms of the same kind of infection which existed previous to his going on the operating table. At autopsy this liver was found enlarged, and sections prepared for the microscope showed extensive fatty degeneration.

My next case of this class was Mrs. C., aged 61, operated on Oct. 2, 1901. This patient gave a history of severe gallstone attacks extending over a period of twenty-five or thirty years. She had the classical symptoms of stone in the common duct. At the operation I removed a stone from the common duct the size of a pigeon's egg. Its upper or gall bladder end was faceted in two places, showing the pressure of two additional stones; these were also removed. These two were equal in size to the first. This woman lived fifty days, dying, as the other two patients, exactly in the same way. On autopsy, this liver was found to have undergone the same fatty changes that characterized the liver in the case of Mr. T.

Now, then, bear with me while I partially relate the history of a case that I saw a few weeks ago, Mr. B., aged 54, but looking much older. Marked atheroma of the radial and temporal arteries. Has always been

temperate as to the use of alcohol and tobacco. No specific history. Has suffered from chronic irritation of the stomach for twenty years. Gives every symptom of chronic ulcer of the stomach, possibly now malignant. Asks relief because of what he calls his "chronic stomach trouble." Physical examination discloses a stomach with its lower border on a line with the umbilicus. Appendix tender; kidneys negative. The liver in this patient is very small, evidently markedly cirrhotic. Pressure over the costal arch elicits no pain on either side. This case has not yet been brought to operation; but when he is, what will we find? I believe that it will be both a chronic ulcer of the stomach and a chronic cholecystitis. Further, I believe that the cirrhosis of his liver is the result of long-continued infection from his ulcer in the stomach, or the chronic inflammation of the gall bladder, or both. I believe also that Miss C., above mentioned, would have had the same kind of a cirrhotic liver as is now present in Mr. B. could she have lived long enough, i. e., had a smaller dose of less virulent infection than she evidently did have, and had not the probable malignant condition found on autopsy intervened. As long as we have ulcer in the stomach or duodenum or an infected gall bladder to furnish a long-continued infection through the lymphatics to the liver and pancreas, we are sure to have occasionally a case which will die following operative procedures in the upper abdomen, regardless of the skill with which such operative procedures are conceived or by whom carried out.

This phase of the question of chronic symptoms in the upper abdomen as indicative of the pathology that may develop there is, I believe, most important, and so far as I know has not been thoroughly worked out, except possibly by Quincke, quoted by Eisendrath, as follows, in the paper mentioned below: "The clinical picture of the cholecystitis usually predominates, so that the cholangitis, with its grave influences on the liver parenchyma, is marked. The course of cholangitis seems to be most acute with virulent colon bacilli; more chronic with staphylococci and streptococci." These writers (Eisendrath, and Quincke, whom he quotes) makes no mention of the possibility that these infections may be the cause of cirrhosis of the liver in an individual otherwise free from the usual history that precedes the average case of this disease, viz., chronic alcoholism. Eisendrath's paper, which appeared in the Nov. 30, 1901 number of The Journal of the American Medical Asociation, is a valuable contribution to the literature of infections of the liver following acute cholecystitis.

Closely related to the above is the great question of cancer of the stomach. If overlooked, infections can produce such dire results; and, as we are slowly coming to realize that they can, what shall we say of this most terrorizing and hopeless condition of them all? You and I know that at the present day, when the diagnosis is made. the treatment in the great majority is by abandonment of the patient to his fate. We have, as yet, no means of making an early diagnosis, either in cholecystitis, cholangitis or in cancer of the stomach, but we have, as I believe I have pointed out above, symptoms which can be very nearly interpreted aright when it comes to these other conditions which are so common in the upper abdomen, certainly interpreted near enough to know that the only hope of permanent cure is by the aid of surgery. When this time comes, as it surely is coming, cancer will be diagnosed in its earliest stages when the surgical treatment will take into consideration the distribution of the regional lymphatics, which in this situation, as pointed out by Cuneo, are the most favorably situated of any in the body for permitting a radical cure. Thus in curing conditions in the upper belly, which give rise to many distressing and common symptoms, we attain a greater end in the promise of a more permanent relief for our cases of chronic infections of the liver and of gastric cancer. In the realization of this, the internist and the surgeon must join together. If they do not, the records of both in diseases of the liver, stomach, duodenum,

gall bladder and pancreas will continue to be a page of regrettable failures.

Discussion.

Dr. J. G. Franken, Chandlersville: Dr. Percy made use of an expression which pleased me very much, and that is, that the sympathetic nerve is without sensation. It is true that the objective as well as the subjective symptoms very frequently lead us astray so that we can not come to a positive conclusion in our diagnosis. In this connection, I would like to relate briefly a case similar to those described by Dr. Percy.

Some six or seven months ago, a young man came under my observation for a short time, and again came under my observation about three weeks ago, when I held a post-mortem on him. Between the time I treated him and his death he had been under the care of six or eight physicians, going from one to another, trying to get relief. His case was diagnosed variously—appendicitis, cholecystitis, cancer of the stomach, abdominal disease of some kind. He had hemorrhoids, and one physician even went so far as to say that his whole trouble was due to the hemorrhoids. When he died, I was asked to hold the post-mortem.

I opened the abdomen and found an enlarged cholecyst—about three inches in length and two and a half inches in diameter—distended with a viscid, though thin, fluid. The pancreas was atrophied, but otherwise there was nothing to be found. The stomach was normal; the appendix was intact; there was some obstruction in the common duct, which later was found to be tubercles, and there was a pathologic condition of the small intestine extending from the deodenum to almost within an inch of the ileocecal valve, continuous from one end of the small bowel to the other. A diagnosis was made without difficulty—a miliary tuberculosis of the intestine, a dry tuberculosis. There had not been any peritonitis at any time, nor any effusion; the only symptom, subjective, had been pain, constant, incessant pain. There was pain simulating colic; pains of a gastralgic nature; pains of all kinds, located chiefly around the umbilicus, but frequently described by the patient as being in the appendical region or over the gall bladder; sometimes in the stomach; sometimes over the spleen; always varying and changing position from one part of the abdomen to the other.

There was no microscopic evidence of tuberculosis in the lungs, liver or kidneys.

Dr. S. M. Miller, Peoria: I desire to emphasize a point made by the essayist, that of the inflammation conveyed by the lymphatic system, which has been a neglected field of investigation, in my opinion. It has come to my notice within recent years through observation of cases in which the possibility of an early and positive diagnosis was to be attributed to the detection of enlarged glands in places remote from the primary lesion, which was in the upper abdominal segment. It has been stated by men of repute that in quite a few of these cases (— per cent.) the supraclavicular glands will be found enlarged.

The difficulty of the diagnosis of affections of this locality is well known, and the ability to make a positive diagnosis in all cases or even in the majority of cases is not possessed even by expert diagnosticians. The rule of probability must obtain. The ultimate diagnosis generally will be made at an exploratory incision.

Dr. J. M. G. Carter, Waukegan: I am very glad to have had the opportunity of hearing this very excellent paper, and I can confirm some of the statements made by the essayist in regard to the indefiniteness of symptoms. In this connection I wish to mention one case that occurred in my practice, and which is rather rare in the literature.

I was called to see a lady who never before had complained of any pain in the abdomen. When I first saw her she complained of a little distress; not very much pain, but a distressed feeling. I made a diagnosis of gallstones and advised operation. On the second day, I called in a surgeon, who said that in the beginning of the trouble an operation would, perhaps, have been the proper thing to do, but at this time he would advise against operation.

She had very little fever. At first her temperature went up to 103° F., but gradually dropped to 101° F., and then it remained in that neighborhood. The symptom that caused me so much anxiety was the rapid failure of the heart; the increased rapidity of the heart beat and the great weakness of the heart muscle.

Death ensued on the third day. An autopsy was granted. We found that the wall of the gall bladder was very thick, about one-fifth of an inch, and very much distended, about three times its normal size, filled with a dark grumous liquid and containing a few gallstones. The tissue of the wall was black in color, except at the upper portion near the outlet. It was a case of **gangrene** of the gall bladder, which also extended to the surrounding tissues.

The case was a very remarkable one, and I thought that the narration of it might, perhaps, be the means of leading some physicians to suspect, in cases where they are not allowed to take advantage of the benefits to be derived from an explanatory incision, that it is a case of gangrene of the gall bladder.

Dr. Denslow Lewis, Chicago: I wish to commend the practical deduction made by the essayist that in many of these cases the ultimate resort is an appeal to surgery. Two years ago I heard a well-known German surgeon say that he was not prepared to insist that every case of stomach trouble not cured by six weeks at Kissengen should be operated on, but he was pretty nearly ready to do so. The time has come when chronic dyspeptics should know that a gastro-enterostomy which drains the stomach and perhaps places at rest an ulcerated mucous membrane is worthy of serious consideration. Certainly when the diagnosis of ulcer is prob-

able there should be no delay. Even if an accurate diagnosis is impossible, an exploratory incision will set many a doubt at rest and, with the parts exposed to view, will permit the performance of any operative procedure that at the time may seem advisable. I am in hearty accord with the position taken by the essayist, and I believe his suggestions are most timely.

With increasing experience, we will all resort to operative procedures in the class of cases under consideration more frequently and much earlier than we have done in the past, and, I believe, our results will be correspondingly better.

Dr. Adams: Dr. Lewis seems to be advocating operation in all these gall bladder cases, and it occurred to me that it might be interesting to us if the essayist, in closing, would give us his opinion as to the cause of the fatty degeneration of the liver in the case he enumerated, and which resulted seriously.

Dr. Percy (closing the discussion): I am very grateful for the discussion my paper has elicited. I can assure you that I came before this section with some trepidation. It has gotten to a point now that to be a surgeon carries with it the assumption of martyrdom, especially after hearing the address before the surgical section this morning.

There are two things that I hope I have impressed on you and made plain in my paper. One is the periodicity of gastric ulcer. There is no literature on this subject, either in this country or in Europe. It is a subject that has befogged all of us. You have a case of gastric ulcer which you treat for a period of two or three weeks by means of various antiseptics, hemoglobin, rest and rectal feeding, and the case apparently gets well. Naturally, you attribute this to your treatment. I believe your treatment had very little to do with it, because, after a lapse of a few months, the patient returns, exhibiting all the symptoms that characterized the previous attack, with the addition, possibly of symptoms of infection of the liver, due to the infectiousness of the gastric ulcer—the second point that I want to impress.

Eisendrath, of Chicago, reports one case of acute infection of the liver with abscess formation following an acute cholecystitis with pus. Many of our cases, and one was mentioned by Dr. Carter, will have exactly that history. His case would have died if it had been operated on when the doctor first advised operation. It certainly would have died, because they all die. That is what I referred to in my paper when I said that regardless of who does the operation and how brilliantly conceived, these patients all die, because there has been a slow infection, persistently fought by the lymphatics, but persisting in the gall bladder, that is slowly destroying the liver.

There are many cases without any history of alcoholism, that have a cirrhosis of the liver, and we wonder where it came from. All these cases have an infection of the gall bladder, or an ulcer of the stomach infecting the liver.

Dr. Miller referred to the difficulty of diagnosis. The diagnosis of lesions in this region are like an old shoe—the longer you wear it the more comfortable it becomes. The more cases you see, the more conscientiously and earnestly you strive to interpret the symptoms correctly, the easier it becomes to correctly interpret them, until, finally, you come very near a correct diagnosis in every case.

The rapid increase in the pulse rate in Dr. Carter's case was the result of an infection; and that is true in all these cases. It is the one symptom that will first attract you attention, and it will continue for days before the heart wears out.

As to the cause of fatty degeneration of the liver, I know of no explanation except chronic infection, which is probably chemical in its nature.

We all know that there are cases that will absolutely refuse operation; and in the aged, those over 70, it is not desirable to operate unless the conditions are favorable. That class of cases I have succeeded in making comparatively comfortable by reducing the number of their periodical attacks of chills and pain by giving them five grains of salicylate of soda and five grains of benzoate of soda three or four times daily. I have seen a number of these chronic sufferers go on for years under this treatment without an attack. The explanation of this is, that these antiseptics are eliminated through the liver and gall bladder.

PATHOLOGY AND DIAGNOSIS OF THE LESIONS OF THE SPINAL CORD AND PERIPHERAL NERVES.*

BY FRANK PARSONS NORBURY, A. M., M. D., JACKSONVILLE.

In order to properly understand the diseases and injuries of the spinal cord and peripheral nerves, it is of the first importance that we have familiarity with the anatomico-physiological features of these special nerve structures. It is not necessary for me to enter into an extended anatomical description of the cord, but I would like to emphasize the importance of certain essentials which aid us when operative treatment is under consideration.

We must remember that irritation and conduction occur by means of the neuron, each one consisting of a nerve cell with its dendrites, of the nerve process (root process, neurite, axis cylinder) arising from the nerve cell and of the terminal splitting of the same (terminal arborization).

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

In order to insure performance of the functions of the neuron, there must be an intact condition of its anatomical structure. Irritation occurs in the neuron by traveling from the cell to the neurite and thence to the terminal arborization and there is transformed to other ganglionic cells, the fibres of which are in intimate contact with the terminal arborization by way of the dendrites of the ganglion cell.

The arrangement of the neurons in tracts serves to systematize these anatomical elements and in the study of their physiological function, diagnosis has been greatly advanced in recent years. The motor tract, the sensory tract, the reflex tracts, thus studied, have been compiled in tables and illustrated in diagrams, so that with their aid, localization diagnosis has been perfected to the extent of what we may now call it the science of localization. Of course, it has not reached an absolute, unalterable degree of perfection, for there yet remains much clinical and physiological investigation to establish the perfect science of localization. However, facts have accumulated regarding the localization of cord lesions sufficient to meet all surgical requirements. There are certain elementary facts which we must always remember and which even in their simplicity bear repetition, frequently. I allude to:

First.—The fact that the cord terminates opposite the second lumbar vertebra. Second.—That the spinal nerves do not leave the cord immediately in line with their origin, but extend downwards and have their exit through vertebræ sometimes remotely from their origin, this distance increasing as we descend the cord from the cervical vertebræ. The lumbar and sacral nerves in their formation of the cauda equina have quite a distance to go before having their exit through their foramina. Third.—That as the spinous processes are taken as guides in making incisions, it is necessary to remember that the spines of the vertebræ do not correspond to the level of the bodies, and that the relationship between nerve roots and spinous processes varies the entire length of the spinal column; thus, at the cervical region, the nerve roots are almost opposite the cervical nerves, while in the dorsal region the spinous process of the sixth vertebra is opposite the ninth dorsal nerve root. Gowers' diagram is of help in understanding these facts. Fourth.—When root symptoms are being considered, it is necessary to remember that one root may give evidence of irritation in several different nerves and destruction of a root will cause atrophy of muscles to which these different nerves originating in this root are disturbed.

In considering disease of the peripheral nerves this fact is of importance, as there is a difference between peripheral nerve distribution and root distribution. (To facilitate in localization, in accordance with the above going statements, tables and diagrams have been prepared found in all standard textbooks showing accurately the root and peripheral distributions.)

Pathology.

The gross and special pathology of lesions of the cord cannot be discussed in their fullness, and we must, therefore, hastily review a few essentials which, when understood, are sufficient to meet the requirements as we are apt to meet them in surgical practice. It is also necessary to consider the surgical pathology of the vertebræ briefly, inasmuch as diseases of the vertebræ are responsible for the greater part of surgical interference where the cord is involved. Degenerations, usually secondary, are the most marked pathological changes in the cord. They follow after injury to the cord, from compression or from severance of fibres. In both conditions the fibres are cut off from their cell bodies and degeneration follows, from the point of injury to the peripheral termination of the fibre. For this reason a small lesion in the cord may cause extensive secondary nerve fibre degenerations. Below the lesion in the cord a descending degeneration occurs and is very extensive near the seat of injury. This degeneration involves other systems than the one immediately affected by the injury. Ascending degenerations too may follow injuries of the cord and may become very ex-

tensive. Secondary degenerations may follow compression of the cord by tumors of the vertebræ or of membranes of the cord, or from Pott's disease (tuberculous caries of both forms), or from fracture, dislocations or from hemorrhages in the neural canal or within the cord or from wounds of the cord, especially gun shot and stab wounds. The special pathology of degenerations from lesions of the cord has been exhaustively studied by Collier & Buzzard (Brain, Vol. 2-6—No. 104).

Occasionally certain malformations of the cord call for surgical interference and the pathology of these affections must be understood before undertaking operative measures for their relief. Spinal bifida is the one malformation which is strictly surgical in its treatment, and Dana says "and only in meningocele."

Syringomyelia, due to formation of gliomatous tissue in the cord becomes of surgical importance at times, and its surgical pathology under such conditions is briefly, the cavity in cord tissue is filled with a fluid which is causing undue pressure symptoms and Horseley says, "Temporary improvement in simple syringomyelia may be obtained by tapping the dilated cavity in the cord." I have seen but one case of syringomyelia and surgical interference was not necessary.

Of disease of the vertebræ which involve the cord, tuberculous caries is the most common. Tuberculosis of the bone usually follows slight contusions in susceptible individuals and the invasion of the bacilli is where the growth of the bone is greatest near the periosteum and intervertebral substance. The anterior surface just beneath the anterior longitudinal ligament, says Warren (Surgical Pathology), is a favorite seat. Here the vessels which run into the bone more or less perpendicularly to the surface are surrounded with granulation tissue, and the absorption of the bone is therefore greatest at these points. Less frequently, the center of the bone is affected. Two or more foci may exist in each body. The destruction of bone goes on until characteristic deformity occurs and compression of the cord results. Horseley speaks of caries without deformity, and says in the lumbar region that it is perfectly possible for extensive tuberculous caries non-suppurative to occur producing the severest paraplegia, without the slightest deformity of the spine. The cervical region too seems to be exempt from deformity. I have seen one such case. New growths involving the vertebræ or the membrane of the cord may cause compressions of the cord. Sarcoma and carcinoma of the bodies of the vertebræ and sarcomatous growths arising in the tissues adjacent may invade the neural canal. I have seen five cases (two in males) of secondary carcinoma involving the cord or its roots by compression. All cases have been secondary to carcinoma of the breast.

Surgical Spinal Lesions.

The surgical spinal lesions are compression of the cord from injuries, from tumors, from caries, from hemorrhage and irritation of the roots of the spinal nerves from new growths, etc. To make a diagnosis, first, as to the nature of the lesion; and, second, as to its localization, is at times easy, while in other cases, as Cushing aptly expresses it: "There are no clinical puzzles more interesting to disentangle, none more confusing when left in a snarl, than those connected with the segmental localization of a cord lesion, the determination from disturbances of function of its transverse extent, a decision as to the recoverability of the injured tracts, and a knowledge of just where the intact arches of the spinal vertebræ, must be entered in order to expose the diseased focus."

In order to solve these problems a complete neurological diagnosis is necessary, certain symptom groups being studied in routine order, viz.: First.—Motor, as shown in paralysis in some form, varying from involvement of one muscular group of muscles to complete loss of power in one or more limbs. Motor irritations or excitations as shown is spastic states, rigidity, contractures, spasms, etc. The differential study of paralysis or irritations cannot be considered here. The second group of symptoms, the sensory,

require great care in their differentiation and involve consideration of tactile sense, temperature, pain and muscle sense, etc., and the varied irritations of nerve roots and later destruction of these roots, etc., paraesthesia, neuralgic pains, ataxia and later anæsthesia, analgesia, thermoanesthesia, etc. In the study of sensory localization much patience and skill will be required to obtain satisfactory results, and as the symptoms are very important, it is necessary to get full notes and follow carefully a definite routine in examination. The diagrams of Sherrington, of Starr, will be of great aid in differential study. In the third important symptom group are considered the reflexes. The condition of the reflexes is an index of diseases of the cord. They are therefore to be given their true place in diagnosis.

Surgical Interference.

Of the indications for surgical interference I would say that in fractures, dislocations, etc., of the spine, the tendency of the times is to advocate early operation. Walton (Journal of Nervous and Mental Diseases, Jan., 1902), of Boston, one of the most practical of our eminent American neurologists, is an earnest advocate of early interference. He says: "That we have no symptoms from which we can assert at the outset that the cord is crushed beyond the possibility of a certain degree of repair, and that early operation in all doubtful cases will not only accomplish all that late operation will do for these cases, but it will be performed to better advantage before reparative processes with adhesion and callus have appeared. Total relaxed paralysis, anæsthesia of abrupt demarcation, total loss of reflexes, retention, priapism and tympanites, if persistent, Walton believes point to complete and incurable transverse lesion; but the onset of such symptoms does not preclude a certain degree, at least, of restoration of function. The prognosis without operation is grave but this is hardly a sufficient argument, as it is also grave with operation.

While the results of operation are not brilliant, he thinks they are sufficiently encouraging to warrant us in making the practice more general, and in most cases it will be wise to operate within a few days of injury; but a delay of some hours is advisable, partly on account of shock and partly to eliminate the diagnosis of simple distortion. Instead of selecting the occasional case for operation, we should, he thinks, rather select the occasional case in which it is contraindicated (the patient with great displacement of the vertebræ, the patient with high and rising temperature, the patient plainly moribund, the patient still under profound shock). The dura should be opened freely; it need not be sutured; drainage is not necessary.

C. L. Dana, in discussing this paper, remarked that in his experience, operation is practically safe, and that the spinal column is not injured by the operation.

Cushing (Cleveland Medical Journal, January, 1905), in speaking of the indications for surgical intervention in cases of spinal traumatism, said: "For the sake of having some tangible and definite rule for conduct, I have always divided these cases into three categories. (1) Those in which an operation is contraindicated because it can do no good and may increase the damage already done. To this group belongs the traumatic hæmatomyelia, a not uncommon lesion, one easily recognized from its symptoms alone and without radiographic aid, and one which, up to a certain point, is recoverable by natural processes of repair. (2) Of these cases he had twelve. Cases of fracture-dislocation, which are relatively common, and which, so far as we know, are beyond all hope of restoration, owing to the complete transverse nature of the lesion. In these operation can do no harm, but it is an unjustifiable ordeal for both patient and operator. (3) Cases of partial injury to the cord with symptoms which are increased and perpetuated by pressure from a foreign body, such as a fragment of bone or a bullet, from a group in which an operation undoubtedly will do good, provided it is so conducted as not to aggravate, by further traumatism, the already existing symptoms. All of these conditions are commonly regarded as surgical, and I have mentioned

them for the sake of emphasizing certain limitations which should be recognized. Only in the long standing cases, therefore, which present undoubted evidences of transverse destruction, no matter whether the lesion in its transverse extent originally was or was not complete, is an operation to be considered utterly futile.

Regeneration of the Cord.

The possible regeneration of the cord after severence by accident is one of the new features in cord surgery, brought into prominence by the remarkable case of Stewart (Philadelphia Medical Journal, June 17, 1903), where by gun shot through the spinal cord, a complete transverse lesion occurred. By operation three hours after the accident the ends of the cord, which had been separated, were, with difficulty, united by sutures. Sixteen months later functions of the cord were restored to the extent that she was able to perform flexion of the toes, thighs, extend the toes and rotate the thighs; stand with support by a chair. The bowel and urinary function were performed with little inconvenience; menstruation was regular; sensations of touch, temperature, pain and position were present, but temperature sense was impaired. There was no reaction of degeneration; no trophic changes of skin or nails. This remarkable case has not been explained; it is one of the most unique and extraordinary experiences of surgery. It leaves open the question of physiological restoration of function and adds to the many unexplained experiences of neurological practice.

Peripheral Nerve Surgery.

The recent studies of nerve anastomosis have opened up a most promising field in neurological surgery. It is in this department of special surgery that extended experimental work is meeting with such favorable results. The work of Cushing, of Johns Hopkins Hospital; of Spiller and Frazier, of the University of Pennsylvania in this country; of Kilvington, of the University of Melbourne; of Manasse, of Munk's Laboratory of Berlin; of Kennedy in Glasgow, and other workers in France and Italy, has proven the practicability and possibility of nerve anastomasis so that grafting of a paralyzed nerve upon an intact nerve will result in the return of function of the paralyzed nerve.

In order to better understand the principles underlying this practice, let me briefly state that according to the present stage of our knowlege, the various nerve fibres which run in a nerve trunk are grouped as follows: According to Kilvington (1) Motor nerves proceeding direct from the central nervous system as skeletal muscles. (2) Preganglionic fibres arising in the central nervous system and ending in nerve cells placed peripherally (sympathetic ganglion cells, mesenteric ganglion cells and those of the heart and salivary glands, etc.). (3) Post-ganglionic fibres arising in these peripheral ganglia and ending in smooth muscle and glandular tissue. (4) Afferent fibres arising in the peripheral sensory apparatus and proceeding to the central nervous system; with these must be classified for the present, the vasodilator nerves.

Now, it is a fact that in nerve crossing that all of these groups may be embodied in one nerve, but it is the motor fibres which are most in evidence in the experimental work. The experiments have been complete, and it would be an interesting and profitable twenty minutes to devote one paper before this society on this subject alone. I can only mention the latest publication along this line, the conclusions of the experiments of Kilvington (British Medical Journal, April 25, 1905), which are:

1. It is possible to functionate two opposing groups of muscles by a single nerve, which previously supplied one group only; or, to put it in another way, it is possible to innervate fairly completely, muscles with a much smaller number of motor horn cells than usually bring about this effect.

2. When the central end of one nerve is joined to the peripheral ends of two nerves there are many more fibres in the peripheral nerves than in the central nerves, so that the nerve fibres in the proximal trunk divide on going to the distal trunks.

3. In some cases at least some of the branches from one nerve fibre go to supply one set, and others the opposing set of muscles. This may prevent very delicate movement being restored.

4. After this form of suturing the arrangement of the nerve fasciculi in the peripheral nerves is considerably altered. Though these experiments are incomplete, as they have not been performed on the human subject, I think sufficient has been done to justify the clinical trial of the method. It seems it would be likely to impress some of those distressing cases of infantile paralysis for which so little can at present be done. It may be applicable, too, in some injuries with loss of some of the length of the nerves, tumors of nerves, etc. (I would say that Spiller and Frazier have anticipated Kilvington nearly two years in applying these facts in a successful case reported bfeore the Philadelphia Neurological Society, and of which I will speak later.)

Cushing (Annals of Surgery, May, 1903) has reported favorable results in nerve anastomosis in facial paralysis, and in his report in commenting upon nerve anastomosis he says: "In this form a given nerve with normal central connections is completely divided and its peripheral distribution abandoned as being of comparative unimportance. The central end of this nerve is then brought in its entirety into connection with the peripheral end of the nerve considered of greater importance, but whose central connections have been destroyed. (The accessorius was abandoned and its central end joined to the peripheral end of the facial nerve.)" "On purely anatomical grounds, this operation is suited to those cases in which a lesion of the facial nerve has occurred proximal to the stylomastoid foramen; and, fortunately for operative repairs, it is in this interosseous portion of its course that the nerve is most susceptible to injury whether from disease or traumatism."

Cushing further says: "The length of time which may elapse after the reception of an injury to a motor nerve and still allow of restoration of function through nerve anastomosis is necessarily uncertain and dependent entirely upon the condition in which the muscles have been kept by massage and electrical exercises. In case there has been complete atrophy of the muscles, so they no longer respond to galvanic stimulation, probably no hope can be entertained of their recovery. Consequently, should there be any doubt of the completeness and permanency of the lesion, as in the frequent paralysis following otitis media in children, or the severe types of Bell's palsy in the adult, the muscles should be kept in tone by daily galvanism for the number of months during which it may seem advisable to await a possible regeneration without operative intervention.

"In cases of undoubted destructive lesions, as in a case reported by Faure, and the writer's, the operation, of course, should be done at the earliest possible moment. The failure in the former case was undoubtedly largely due to the long interval, namely, eighteen months, which elapsed between the injury and the operation. An operation such as Bloodgood successfully performed in one instance by exposure and suture in the Fallopian canal of a nerve previously injured in a mastoid operation, would, except under most favorable circumstances, be difficult in the extreme, and the procedure would hardly be applicable for the cases in which anastomosis is proposed.

"As far as the nerve itself is concerned, a reasonable delay in the operation need alter in no respect the prognostic favorability of the case. Clinical experience as well as the researches of Howell, Bethe, Balance and others shows that there is some change, whether a true regeneration or not, which takes place in the peripheral portion of a divided nerve and puts it in a state of readiness most favorable for an early return of function after reunion by suture. It must be remembered, also, that cases of suture of individual nerves have resulted in return of function, though the operation has been done some years after the original injury.

"It is naturally of some interest to con-

sider in what way restoration of cortical control is brought about in transplantations of this kind. That undiminished strength and power of co-ordination will return to a group of muscles after section and suture of their controlling nerve is a common observation. It is inconceivable, however, that the divided ends of each individual nerve fibre should once more unite in the process of regeneration by perfect coaption. Supposedly each fibre is represented by a motor cell in the central nervous system so that it is presumable, under the readjustment of healing, that the individual cells make connection with new groups of muscle fibres. Under these circumstances there is on the part of the individual, during the slow period of motor return, an unconscious effort to co-ordinate the early movements, which by training leads to a perfect result."

"In case the nerve is grafted into an entirely different motor territory, the problem of functional restoration becomes much more complex, and the training of co-ordination would supposedly be correspondingly difficult. Return of well co-ordinated movement nevertheless seems experimentally to have been as rapid in cases of nerve anastomosis as in those of simple nerve division. Probably the age of the individual is a most important factor, and without doubt the younger the subject the more favorable is the prognosis after nerve anastomosis, especially in case muscles with such an elaborate co-ordinate action as those of facial expression are concerned. It is natural that especial difficulties would be encountered under such circumstances, owing to the complex emotional nature of facial movement."

Other peripheral nerves have been successfully crossed in surgical practice and one of the most interesting and instructive cases is that reported by Spiller and Young before the Philadelphia Neurological Society in February of 1903 (Journal of Nervous and Mental Disease, June, 1903). The case was one of anterior poliomyelitis of two years' standing, in which the anterior tibial muscle alone was paralyzed.

The operation having been decided upon, the most important feature was the route to be selected. From a careful dissection personally made, Dr. Young decided that the lateral route was the better one, and accordingly an incision 10 cm. in length was made downward from the head of the tibia in the long axis of the leg. The incision included the skin and superficial fascia. The deep fascia was divided upon a groove director, exposing the peroneal nerve. The nerve was followed down, and by separating the peroneus longus muscle three divisions were found, (1) the fasciculus of the nerves supplying the upper part of the anterior tibial muscle, (2) the anterior tibial nerve, (3) the musculo-cutaneous nerve, these divisions corresponding to those found in the cadaver. It was decided to take the upper division, of which there were four or five fasciculi, and perforating the external division, the musculo-cutaneous, the former were united to the outer side of the latter by fine cat-gut sutures.

Great care was taken not to injure the musculo-cutaneous nerve any more than necessary, and the fasciculi of the nerves which supply the anterior tibial muscle at its upper part were pushed through the incision in the external musculo-cutaneous nerve without any attempt being made to separate the nerve fibres from the sheath. Small instruments were used, and the nerves were handled as little as possible.

The nerves which were anastomosed were divided as high up as possible, so that there would be no tension upon them. The deep fascia was not closed with sutures. The skin was united by interrupted sutures. Over the antiseptic dressing a plaster of paris cast was applied to insure fixation of the limb.

It was my pleasure to see this case in Dr. Spiller's clinic last May, at which time improvement was decided, the child could walk almost in a normal manner and muscular power was good. This case suggests the possibility of other anastomses being performed, and especially should we emphasize it as a promising operation in these unfortunate cases of anterior poliomyelitis where one muscle or group of muscles alone is involved.

Nerve anastomosis and transplantation is being advocated by Spiller and Frazier in cases of cerebral palsy. In an address (before the New York Neurological Society, and reported in the Journal of Nervous and Mental Disease, May, 1905) Spiller said: "The views here expressed are original with the authors, and if experience proves they are fallacious, they may nevertheless afford some suggestions for further investigations." The question he prompted was, "Is it possible by surgical means to benefit in any way the patient afflicted with an incomplete hemiplegia?"

It is beyond the most sanguine hope to give relief by surgical means in complete or almost complete hemiplegia, but Spiller's hope is based on the cases where partial return of power is in evidence. It is the experience of observers that usually the restoration of motion in hemiplegia is greater in the flexors in the upper limb and greater in the extensors in the lower limb, except those of the toes. An operation on the upper limb is not advised, because the flexors of the fingers are more useful than the extensors. In some cases, however, this feature is of little value unless there is at least partial return of power in the antagonistic muscles, although this return need not be so great in the extensors as in the flexors. Spiller is inclined to believe that in a case where the flexors alone regain power we might anatomose the central ends of some of the least important of the flexor nerves with peripheral ends of the extensor nerves, and in this way restore more nearly the normal relation between the flexor and extensor muscles.

We know from the experiments extending as far back to the work of Fleurens in 1824 that nerve crossing is both feasible and possible, and that even though the disused nerve may have been out of service for years, that regeneration of the united ends will occur when these nerves have not lost their connection with the spinal cells.

Another question propounded by Spiller is: Would impulses pass from the brain over the central motor tracts to the anastomosed fibres in such a way that useful return of function might be expected? His answer is, that such a restoration in part would at least occur. He says: "It is true that movements and not muscles are represented in the brain cortex, but it has been demonstrated that when the lesion is in the peripheral nerves and anastomosis of nerves has been performed, a new form of associated movements may be learned by the brain. In this association there must be some equilibrium established between extensor and flexor muscles, in order to have return of power.

This work of Spiller and Frazier seeks to give aid in certain selected cases of cerebral hemiplegia, and it is in the field of the cerebral palsies of childhood where the most good is expected, also some possible relief in athetosis. This new possibility of neurological surgery commends itself in the cerebral palsies, but the selection of cases will demand careful oversight.

It was my pleasure to study under Osler and Wilmarth some years ago a series of cases (thirty-six) of cerebral palsies, all of which are reported in Osler's Monograph on this subject, and judging from the pathological findings in those cases, the number of children amenable to surgical treatment will necessarily be limited because of the unequal destruction of motor power and thereby lessened possibility of establishing balance between flexion and extension of muscles.

Discussion.

Dr. J. Brown Loring, Chicago: In reference to the paper of Dr. Patrick, I would like to ask the question as to whether tabes ever gives any indications of the eye pointing towards the tumor on the side referred to.

Some few years ago I was consulted by a man who had paralysis of accommodation and of the pupil. This was the only paralytic condition present. He came to me on account of severe occipital headaches, which were much worse at night, but not constant. They were somewhat intermittent, very severe, and his accommodation had been paralyzed for ten years. He had some difficulty with vision; he consulted an oculist, who prescribed atropine, and the patient attributed the paralysis of accommodation to the use of the atropine. He never recovered his accommodation after its use. That, I think, was an error on the part

of the patient. His vision was slightly reduced; when he came to me it was 6/9; there was contraction of the fields of vision, not markedly, but slightly. On two occasions in my office there was contraction of one of the internal recti muscles so as to cross the eye, making an internal strabismus. My reason for asking the question is this: The patient consulted a well-known neurologist subsequently, who made a diagnosis of neoplasm of the brain. The man is now the subject of well-marked tabes and of beginning general paresis.

One further point in reference to the case and the difficulty in making a diagnosis was that he had suffered from a suppurative inflammation of the middle ear in early childhood. The drum was still open; and consequently one would be interested to know whether the middle ear trouble had not been causing this difficulty. I suspected tabes was at the base of it, and so informed the patient; but was severely censured by the neurologist. I was not exactly censured either, but the patient was told that Dr. Loring must have known what the difficulty with him was, and he was surprised that I did not so state. We are sometimes surprised to know of the things we do not know.

Dr. M. L. Harris, Chicago: I wish to say a few words in favor of more frequent operations on injuries to the peripheral nerves. Even months or years after a peripheral nerve has been divided we may get considerable restoration of function by means of nerve grafting. Three months ago I operated on the ulnar nerve, grafting the injured ulnar nerve into the median. The ulnar nerve had been injured for two years previous to the operation. There was a complete atrophy of the muscles supplied by the ulnar nerve, and I found the distal portion of the ulnar nerve and grafted it into the median high up in the arm; the injury was just at the lower border of the axis; I cut a slit in the median and transplanted the end of the ulnar into the median. It is now three months since the operation was done, but already marked improvement has taken place. Electrical reaction has been restored, with considible voluntary muscular action, and sensation has returned almost completely.

About six weeks ago I did the same operation, transplanted the ulnar nerve into the median for an injury to the ulnar nerve in the axilla produced by a dislocation of the shoulder joint. There was the same characteristic atrophy and position of the hand in this case. There is no marked improvement in this case as yet; we would not expect it so soon, as restoration of function sometimes takes several months, and we cannot expect a great amount of improvement short of six months to a year; but the remarkable improvement that has taken place in three months in the other case two years after the injury shows that there is much to be hoped for by this method of anastomosis.

Dr. Jacob Frank, Chicago: I would like to speak on the surgery of the brain and confine my remarks solely to that.

We have been given a method of diagnosis of localization of brain tumors; and we know that we have made great advances in the localization of brain lesions; but the neurologists still cannot tell us beforehand whether we have to deal with an encapsulated lesion or a diffuse lesion that is very urgent before an operation or not. Let us suppose that the diagnosis has been made, and the case has been turned over to a surgeon for operation. It is an easy matter to open the skull, and if it is a dural or a cortical lesion, it is easy enough to locate and remove. But if the lesion is subcortical, a different question confronts us. What I wish to bring out is this, that we can benefit a patient only in a certain way by brain surgery, and this point I brought out in 1887, when I presented before the Chicago Surgical Society a large series of cases of surgical work on the brain, and my conclusions were these: Surgery of the brain is a success; the brain can be explored, not like my friend Dr. Patrick says by incising brain tissue, as I would consider that bad practice, but by or with the finger, or with the end of a spoon, pushing aside the tissue and exploring the sulci. In that manner we do not get much hemorrhage.

Take, for instance, a case of Jacksonian epilepsy, where the patient has rigidity of one side of the body, with severe pains; we remove the foci that caused those symptoms, but is the patient well? Is the post-operative result what we would like it to be? Do we get a post-operative result the same as we do when we perform a laparotomy and remove an ovarian or fibroid tumor? We do not. All we can do for the patient is to relieve the paralysis probably for a while, or subdue the pains for a time; but he is still not in a position to earn his livelihood. Practically he is left incompetent with pain and paralysis. Therefore, we have a great deal more to learn about brain surgery than we at present know. I do not think brain surgery will ever become a fad like other operations, unless the growths are benign and are not subcortical. If the neoplasm lies on the dura, or if it originates from a bone, we can expect better results. I think the same rule holds good for spinal surgery, with the exception of the traumatic cases. In tramatic cases I am in favor of cutting down and removing the cause; but for malignant tumors and growths in the spinal cord, I think the indications for operating will be the same as for cortical lesions of the brain.

Dr. Emerson M. Sutton, Peoria: It is unfortunate that the paper of Dr. Patrick was subjected to a time limit, for the reason that there has not been enough said in regard to the symptoms. We have to differentiate meningitis from other cerebral conditions; we have choked disc associated with some cases of meningitis.

An experience I had recently warned me against opening the skull for a supposed tumor of the brain, or where the symptoms of brain tumor are present, and the diagnosis is uncertain from a lack of the focal symptoms. Even

in the presence of some of the focal symptoms the doctor spoke of, the location of the tumor, subdural or deep, it is almost an utter impossibility to tell whether one should operate or not, and unless the focal symptoms are well marked, I believe it is absolute folly to open the calvarium for a tumor and to undertake an extensive search in any direction. In a recent experience, where everything was done to arrive at a correct diagnosis, there was no paralysis except blindness, choked disc, atrophy of the optic nerve and the patient had most intense headaches. The patient was a child, seven years of age. When the calvarium was opened, incidentally there occurred hernia of the brain from the intracranial pressure. There was no tumor present, but the ventricles were filled with a cerebro-spinal fluid. The patient lived for six or eight weeks and then died. The diagnosis was basilar meningitis, and the autopsy verified it. That case might have been treated better by spinal puncture. On account of the severe headache, the choked disc, etc., we were led into error.

There is another thing which may be confounded with the class of cases under discussion, and that is syphilis of the brain, particularly in those cases with severe headaches and signs of tumor. Syphilitic affections of the brain must be carefully eliminated by a most rigorous antisyphilitic treatment. I recently had a case of these periodical headaches, with the focal symptoms of pain over the superior maxillary bones, with the sensory symptoms alluded to by Dr. Patrick. The patient had a temperature of 102°, with these headaches. He had decreased rapidly in weight, and was fast becoming exhausted. Although there was an absence of a history of syphilis, the use of proto-iodide of mercury in a few days cleared up the headache that had bothered a number of physicians who had previously seen the patient. The first physician treated the patient for brain fever; but three or four months before this the family physician noted an eruption on the boy's body. The boy was innocent, and did not think it was possible he had had syphilis.

In regard to epilepsy, I am firmly convinced that we can do more for that disease than we have been led to believe by our textbooks, if operation is undertaken sufficiently early. In the case of a laborer, who was struck on the head with a brick, in Peoria, some months afterwards he was rendered absolutely incapacitated by daily seizures of the Jacksonian type, beginning, as Dr. Patrick has demonstrated to us, in the fingers and extending over the body. A clinic tumor, with a wall as thin as a spider web, was located, and in the center of that were the remains of an old clot, dislocated in the fissure of Rolando. This was carefully removed, the patient recovered, and had no further symptoms of any kind. In June it will have been three years since the operation was performed, so that this is a proper procedure where we have definite focal symptoms

Dr. Edwin W. Ryerson, Chicago: I want to say a word or two in regard to infantile paralysis. This trouble, after the initial period has gone by, is not affected by internal treatment. Brace treatment of itself is unsatisfactory. Tendon transplantation has not given the satisfaction we had originally hoped for, except in those cases in which one or two of the muscles are affected, and it seems to me that we have a great deal to hope for from nerve transplantation. If nerve transplantation be done by a particular technique, it does no harm. It may do good. The technique I refer to consists in splitting the good nerve and inserting the peripheral end of the paralyzed nerve, after it has been trimmed off, into the slit. The method of cutting off a good nerve and uniting it to the peripheral end of the paralyzed nerve is to be condemned, provided the muscles which are supplied by the nerve are of no use. It entirely cuts off the function of any muscles which are supplied by it, and there are few legs which can stand any muscular supply that is cut off. I feel that the splitting method and the insertion of the peripheral end of the paralyzed nerve into the slit should be tried primarily, say a year from the beginning of the disease. It can be do no harm, and as an initial measure may do good, and can be followed by tendon transplantation, and have no effect upon the brace treatment.

Dr. Patrick (closing the discussion on his part): In regard to Dr. Loring's question, there is no similarity between the symptoms of tabes and those of brain tumor. I cannot conceive how an error could arise, as the symptoms are not similar. Either the tumor occurred after Dr. Loring saw the case, or what was likely, the patient had syphilis years ago, which affected accommodation, and in consequence of the earlier syphilitic infection he developed paralysis.

As to the remarks of Dr. Frank, there is practically no difference of opinion between us. We have talked over this subject a number of times. Regarding the matter of technique, to which Dr. Frank alluded, I spoke of freely incising the brain tissue, as that was the quickest thing to say, but whether the opening ought to be made with the scalpel, with the handle of a spoon, I would not attempt to decide. I have seen Sir Victor Horsley make not only a free incision with a sharp knife, but a T incision as well. But that is a question for Horsley and Frank to thresh out.

The prognosis of operations on the brain does not come within my domain; but I would like to repeat what I said before in a little different form, that the longer one waits for the whole symptom-complex of tumor of the brain, the worse the results. The more closely and accurately a study of the symptoms is made, the more definite the localization, and particularly the earlier the diagnosis is made, the better the result.

As to the fact that there are very few eminently successful operations for brain tumor, nobody disputes it. But the percentage is very

low indeed. Cases do occur now and then where brain tumor does not get well spontaneously, although they get to a standstill after optic atrophy supervenes, and the patient goes on for years in a relatively comfortable condition.

Dr. Sutton, in his remarks, opened up the question of diagnosis. The questions of diagnosis are simply innumerable, because we have to consider syphilis, meningitis, hydrocephalus, etc. Opening up the brain and exploring it for tumor is no more justifiable than any thoughtless, foolish operation in surgery. But there is a palliative operation which relieves the intense pain, blindness coming on, sometimes extreme vomiting, and that is by opening up a large flap to relieve tension which thus relieves the patient to a considerable extent. But this is a question for the patient or his friends to decide with the surgeon. However, it is sometimes not only a justifiable, but, laudable operation.

Dr. Norbury (closing the discussion): I have but a few words to say. Regarding anterior poliomyelitis, I report in that part of my paper unread, a case reported by Spiller and Young, operated in 1902 (reported in 1903) where nerve anastomosis was successful. I saw the patient last year in Spiller's clinic. Another case reported by Spiller and Frazier and was not as successful. The results of operation, however, are certainly encouraging and bespeak, for selected cases, a promising field for neurological surgery. Spiller and Frazier are also doing work, as yet more or less experimental, in cases of cerebral palsies; their reports before the New York Neurological Society show possible opportunities to do work in this line of inquiry. They are conducting studies in the Pennsylvania Institution for Feeble-Minded Children, and I know, from my own experience while Resident Physician there, that the field for work is good and promising results may be expected from these indefatigable and earnest workers. In my own experience in the pathological studies of cerebral palsies, it was my pleasure to see and study thirty-six cases in the Pennsylvania Institution, under Drs. Osler and Wilmarth, and it is to be remarked that these cases show such varied and destructive lesions that great care must be exercised in selecting cases for the operation proposed by Spiller and Frazier.

SOME CASES DEMANDING REMOVAL OF THE EYE OF INTEREST TO PHYSICIAN AND SURGEON.*

BY J. BROWN LORING, M. D., CHICAGO.

In this age of acute specialization, for an ophthalmologist to be invited to present a paper before the Surgical Division of a State Medical Society, might well cause him to pause; to have coupled with that invitation the injunction that it must be of equal interest to the surgeon and ophthalmologist, is double cause for hesitation. All diseases and condition of the eye are of vital interest to the ophthalmologist, and on him, in some cases at least, rests the entire responsibility; in others it is equally shared with the physician and surgeon; but frequently the responsibility rests more heavily upon the general surgeon or physician. It goes without saying that an eye that has lost its sight is deprived of its chief function, if, in addition, it has lost its comeliness, it is useless; if it is also harmless and will remain so, or will give plain indications of approaching danger, a sufficient length of time in advance to allow for proper action, it may be left alone or removed at the discretion of the patient. Obviously, interference is demanded, under precisely the same conditions that the surgeon uses elsewhere, namely, for the preservation of life, for the preservation of function by preventing the extension of the disease, for the improvement of the general health and for cosmetic purposes. Difference of opinion, on seemingly positive cases, entailing loss of valuable time and thereby jeopardizing the outcome, leads me to present this subject, which can not be better illustrated than by the citation of cases.

Case 1. Mrs. N. S., age 52, consulted me November 7, 1904, saying "she could not see well in her right eye." There was an enlargement about 2 mm. broad at the base of the iris on the nasal side, circumscribed, elevated, very vascular and apparently extending to the conjunctival surface at the limbus where there was a slight distinctly circumscribed redness. Her vision, however, was 6-15 in each eye, the same as when I completed her refraction for high myopia July 21, 1904. The appearance of the growth suggested sarcoma, and although there was no evidence of syphilis or tuberculosis, she was placed on anti-syphilitic treatment, which afforded no relief. The growth rapidly increased in size and vascularity. The pupillary margin of the iris became retracted toward the growth, with

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eversion of the pigment layer. Extension of the swelling could be seen by oblique illumination, from the posterior surface of the iris. There were opacities in the vitreous and lens. A diagnosis of sarcoma was made and enucleation advised and after some weeks consented to. For the pathological findings in this and the following cases I am indebted to Dr. E. V. L. Brown, pathologist to the Illinois Charitable Eye and Ear Infirmary, Chicago. Examination of the enucleated eye revealed a milky white mass in the anterior chamber occupying the nasal portion of the iris.

Microscopical examination showed cornea slightly thin; the ciliary bodies and choroid are for the most part normal. The retina is detached and slightly atrophic, and shows some increase in the width of the nerve fiber layer. Under low power, extra pupillary sections show the peripheral half of the iris to be the seat of a vascular non-pigmented tumor which is nearly triple the width of the iris in the antero-posterior plane, and has invaded the anterior third of the ciliary body. The spindle cells are densely packed in alveoli, and seem to have originated from the anterior limiting endothelium of the iris. This structure is increased, from its normal breadth of a single cell, to a broad heavily staining band some 15 to 20 cells in width, thus almost equaling the width of a normal iris. The tumor cells have broken through the posterior pigment layer at the root of the iris, and invaded the posterior chamber. The adjacent venous sinus is completely obliterated as well as its ligamentum pectinatum.

Anatomical diagnosis: Small spindle-celled leuco-sarcoma of the iris originating in the anterior limiting endothelium, and invading the ciliary body and ligamentum pectinatum.

Case 2. Woman, age 41, fair general health, came to me May 18, 1904, complaining of blindness and severe pain in the left eye, of one week's duration, rapidly becoming worse; cornea slightly steamy with some anesthesia, marked peri-corneal injection and episcleral vessels engorged, anterior chamber shallow, pupil dilated and slightly irregular, but no adhesions; iris pigment showing around the whole pupil margin. T.+2, vision equal shadows, no red reflex. vision right equal 6/8—2. She gave a history of a similar attack occurring some time previous, from which she recovered without treatment. Dionin, eserin, salicylate of soda and mercury failing to make any perceptible change, other than contracting the pupil, a diagnosis of probable intra-ocular tumor was made and enucleation advised. The patient left me and sought the advice of a well-known oculist, who disagreed from me, and thought enucleation unnecessary. The eye was finally removed by Dr. Wm. H. Wilder, to whom I am indebted for the privilege of completing this report. Microscopical examination shows the anterior chamber filled with an organized blood clot, and the sinus angles closed by the iris root, atrophy of the iris to one-third of its normal width, with great rarifaction of the stroma and ectropia of the pigmented layer. The vitreous is organized and reduced to a small retro-lental organized mass; the ciliary bodies are markedly atrophic; the choroid is the seat of an oval-formed tumor mass originating in its middle layers, and extending from the disc to the equator. The neoplasm is highly vascular and markedly pigmented; the cells are arranged in groups and bands and alveoli of small, heavily staining, closely packed, spindle cells growing from the adventitia of young vessels; the retina is detached and pulled together into a central strand; the optic nerve is atrophic.

Anatomical diagnosis: Sessile melanotic small spindle celled hemangio-sarcoma of the choroid; atrophy of the anterior uvea, retina and optic nerve.

Case 3. Mrs. L. W., age 45, was referred by her family physician on account of defective vision in her right eye, to an optician, who gave her a pair of glasses, notwithstanding they did not improve the sight of that eye. These were worn for about three months, when becoming dissatisfied, she applied for treatment in October, 1904.

Examination revealed the eye normal externally. The vision was zero in the lower field and nearly so above, T.N. The ophthalmoscope showed a detached retina above, and partly to the nasal side, which had a very baggy appearance, floating about as though hanging from a pedicle. There was no increased vascularity, otherwise the fundus was normal. Left eye normal. The case was examined by Dr. E. K. Findlay, and the probability of a growth was discussed. Family affairs detained her, and it was not until January 16, 1905, that she again came to the office, the eye having been red and painful for two days. There was much ciliary injection and the episcleral vessels enlarged; anterior chamber very shallow, pupil dilated, slight eversion of the pigment layer of the iris; vision, bare perception of light. Tension plus 2; only the slightest indication of red reflex, and the fundus could not be seen. Enucleation was advised and consented to, and the eye removed two days later. On opening the excised eye the vitreous cavity was found to be one-half by two-thirds filled by a large brownish mass springing from the choroid.

Microscopical study shows the anterior chamber entirely obliterated; this iris is everywhere adherent to the lens capsule which, with the lens, has been pulled forward to within one-tenth mm. of the cornea. The ciliary bodies are reduced to one-half of their normal size. The processes are matted together and very atrophic. The choroid shows an oval, heavily staining, highly vascular pendunculated tumor mass springing from near the disc; the cells are densely packed in trains and bands, about the vessels; the retina is completely detached.

Anatomical diagnosis: Spindle-cell angeoleuco-sarcoma of the choroid; glaucoma secondaria; complete atrophy of the uvea and retina.

Case 4. A girl, 12 years of age, was brought to the clinic of the College of Physicians and Surgeons, by Dr. Wilkinson, to whom I am indebted for the opportunity of obtaining the history. Drs. John E. Harper and E. K. Findlay with myself found the left eye was noticeably larger than its fellow, the sclera bulging in several points above, the pupil was widely dilated and irregular, the anterior chamber entirely obliterated, the lens slightly smoky, and the vitreous filled with a white mass, over which, by oblique illumination, the vessels could be seen coursing. The tension was plus 1. The eye had a nodular feel and was blind. The right eye was normal. A diagnosis of glioma of the retina was made, and immediate removal advised.

History: About November 1, 1903, while in the country, there was an attack of pain and redness in the eye, for which a doctor gave her some drops. On returning to Chicago, she was vaccinated, from the effects of which she became very ill, suffering most of the time with pain in the eye, for which the doctor prescribed drops, having found the eye blind. On November 20 she was taken to a charitable institution, on the records of which is the following: "Left eye. Cornea hazy, disc cupped, tension plus 2, vision equals fingers at one foot. Vision in right, 20/30. Diagnosis, primary glaucoma, left." Three oculists examined her, and "advised operation at once, which the mother declined." Two days later she was taken to an oculist, of considerable reputation, who evidently accepted the diagnosis of glaucoma. She remained under his care, visiting him frequently. At the end of three months of great suffering the eye was noticed to be enlarging, and the pain gradually subsiding; and in May it was thought the disease was under control, although the eye was larger than its fellow and the pupil dilated. Notwithstanding its enlargement, it was not until seven months later that something was discovered in the eye. Consultation was held with another oculist, and an operation was spoken of as possibly being necessary at some time. It was two or three weeks later that she was brought to the college and received our diagnosis. The eye was removed four days later by her oculist. On section, the eye was found filled with a tumor, of cauliflower-like apearance, the microscopical diagnosis of which I am unable to give. Five months

later there has been no recurrence of the growth.

Case 5. M. M., a rather dense Polish laborer, aged 50, presented himself at the clinic of the Illinois Charitable Eye and Ear Infirmary, April 30, 1904, complaining of failing vision of two weeks' duration in his right eye, the sight of the left having been lost. Examination revealed in the right photophobia, lachrymation, a small but distinct rosy peri-corneal zone, and considerable conjunctival injection. The iris was slightly dull, its reaction to light barely noticeable, tension normal, and vision equalled 20/200, marked hyperemia of the fundus, and some fine cloudiness in the vitreous. He had suffered no pain. Atropine was instilled several times, but produced no appreciable dilation after more than an hour had elapsed. The left eye was deformed and shrunken, red and tender, though not painful. The sight was destroyed 20 years previous, as the result of an injury, with inflammation following, of some weeks' duration, the eye finally becoming quiescent and remaining so until three months before he applied for treatment, when he was struck in the blind eye with a piece of wood. Sympathetic iritis was recognized and immediate removal of the offending useless glove advised. Wishing to consult his family, this was delayed 20 hours. He was placed under active treatment, atropine, oil of wintergreen and mercury. Two days later the pupil was only partly dilated and irregular, the vision having improved to 20/40; after four days, the vision was 20/20 minus 2, but a small exudate was noticed at the pupil margin. In another four days growing restless under treatment, especially the subconjunctival injection, he left the hospital, the left eye, however, being healed. Three weeks later he returned, having received treatment at a homeopathic dispensary. The vision was again reduced to 20/200, pupil only partly dilated, irregular, with increased exudate. The vitreous was cloudy and the retinal vessels blurred. He declined to remain in the hospital, so was given salicylate of soda, grains 15, mild chloride grains 1-8 every three hours and atropine and was told that, unless he wished to enter the hospital, he need not return. He chose not to return.

Anatomical diagnosis of sectioned eye: Healed corneal wound with iris root incarcerated, iritis, cyclitis, choroiditis, with choroidal hemorrhage, vitreous hemorrhage and detached retina. As the general opinion was that he would become blind, and being interested in the outcome, I made a trip to his modest suburban home May 7, 1905, where, contrary to all expectations, I found a happy man, looking over his few acres devoted to market gardening. He told me that he had faithfully used the medicine and steadily improved; that after two months or more a neighboring druggist had selected a single artificial eye from the city, which for color and fit one rarely sees excelled. This has been worn constantly without removal. There was no sign of irritation in the socket or in his remaining eye, and he was able to read fine print. He assured me that he never felt better than since his eye had been removed. Verily one of our best assistants is Vis Medicatrix Naturæ.

Case 6. A brief synopsis of a case of sympathetic inflammation following gonorrheal conjunctivitis, reported by Dr. H. W. Woodruff, in the Ophthalmic Record, July, 1904. Mary Q., age 11, admitted to the hospital October 19, 1903, with purulent conjunctivitis of the right eye, of three days' duration, due to gonococci. Three days later the left eye became slightly involved. After another nine days' perforation of the cornea, in the right occurred, with prolapse of the iris, which was excised. She was discharged November 24, 1903, and told to attend the out clinic. There was a slight conjunctival discharge, containing no gonococci. The vision in the right eye was 5/120, in the left 20/20. The poor vision in the right was due to the adherent corneal cicatrix and a cloudy lens.

"There was no other symptom at this time that would lead one to suspect a uveal in-

volvement. She was under the care of Dr. Tivnen in the dispensary from November 24, 1903, to December 16, 1903, when the doctor referred her back to the hospital, with the following statement: He had made an application of nitrate of silver to the conjunctiva of the left eye, from which there was still some discharge. This resulted in some pain, which the doctor relieved by the instillation of a few drops of a 4 per cent solution of cocaine, instructing the girl to wait until the pain was relieved. After some length of time the doctor examined the eyes again and found that the pupil in the left eye was irregularly dilated, and, suspecting sympathetic disease, he referred the case to me." The length of time between the perforation of the corneal ulcer in the right eye and the discovery of sympathetic uveitis in the left was six weeks. Examination on the date of her second admission to the hospital showed the following conditions: With the right eye she could count fingers at two feet by artificial light. The lens was opaque, and the iris adherent to the corneal opacity. There was no external symptom of ciliary involvement; no pain nor tenderness. The vision in the left was 20/60. The pupil irregularly dilated. There was present the characteristic punctate deposits on the lower part of the cornea in Descemet's membrane. Ophthalmoscopic examination did not reveal any change in the fundus." The right eye was enucleated December 25, 1903. On May 10, 1904, the condition was as follows: "Vision equalled 8/120. The pupillary margin of the iris is adherent to the lens. The central portion of the lens is clear, so that a considerable reflex is obtainable with the mirror. The anterior chamber is shallow, owing to the ciliary margin of the iris being pushed forward. The tension is elevated, and has been elevated for a considerable time, although there are periods of time when the tension is more nearly normal." Dr. Brown, the pathologist, reported fibrinoplastic uveitis in the enucleated eye.

Case 7. P. H., age 11, consulted me October 20, 1903, complaining of fatigue of the eyes after near work, some blurring and frequently pain over the left brow, with a tendency to redness for several days. The sight of the right eye was lost when one week old, from inflammation. Examination revealed the right eye deformed and slightly smaller than its fellow, a dense leucoma of almost the entire cornea which was irregular and nodular with many vessels extending into it. It was slightly tender and he had suffered from occasional twinges of pain. In the left, there was a small pink pericorneal zone with considerable conjunctival injection, photophobia and lachrymation. The pupil acted freely. The vision equalled 6/9. There was a slight lateral nystagmus in each eye. There was hyperemia of the fundus, but not more than one frequently observes in refractive errors. He had hypermetropic astigmatism. He had always been a delicate boy, and a poor sleeper, awaking at from 4 to 5 o'clock each morning and was then a general disturber of the household. Under atropine and salicylates for one week all irritation subsided, a plus 1. D. cylinder, axis 90, gave 6/6 of vision. Thinking the refractive error might be the cause of the whole trouble, the correction was given him for constant wear. No further difficulty, other than an occasional attack of pain, for a short while, in the right eye, occurred, for a period of four months, when there was a recurrence of the trouble in the left eye, which, as well as two subsequent attacks, were promptly arrested by the same treatment. The parents finally consented to excision, which was done early in April, since which time the boy sleeps soundly the whole night. Examination of the sectioned eye showed plastic iridocyclitis, absence of the lens, and complete adhesion of the iris to the cornea.

Case 8. R. H., age 22, 5 years previous had a wound involving the ciliary body of the right eye, resulting in iridiocyclitis, with considerable exudate in the pupil, producing firm adhesions, and reducing the vision to 3/200. He was told that it might cause trouble and advised to see an oculist at once, should there be any pain or irritation in either eye. The first indication of approach-

ing danger came while on a hunting trip, when he noticed difficulty in sighting. He started at once for home; the sight became rapidly worse; did not improve with treatment. That eye is blind and he has barely the 3/200 of vision in the injured eye.

Case 9. Ella G., age 18, came to me March 7, 1904, on account of loss of vision in the right eye. Examination showed it to be blind, excessively tender in the ciliary region, with but slight injection, the tension was minus 1, complete adhesion of the iris to the anterior capsule of the lens which was pushed forward almost obliterating the anterior chamber, except at the peripheral portion, where the iris was retracted. No red reflex could be obtained and the greater portion of the vitreous cavity was filled with a dirty grayish white mass seen on oblique illumination. History: Nine weeks previous had typhoid fever, during the second week the eye became red and painful, the pain extending to the temple. This condition persisted for about four weeks, notwithstanding she was given drops by her attending physician, when it gradually abated. The physician promised to bring a specialist to see her eye, but afterwards changed his mind, telling her "that the eye would come out all right." Despite treatment, the eye remained tender and irritable and removal was advised, but not accepted. Slight exacerbations occurred at intervals, and in March, 1905, a particularly severe one, when she was treated by Dr. E. K. Findlay. Shortly after coming under my care, at the beginning of April, the left eye showed signs of irritation, with vision slightly reduced. She finally consented to have the offending member removed, which was done and the irritation subsided. The removed eye was the seat of a plastic uveitis resulting in phthisis bulbi.

In these tumor cases, all will agree that the safety of life is in direct ratio to early diagnosis and removal. Yet some of them were needlessly delayed, though the indications in all were positive. It is too early to predict the outcome. On two of them the X-ray is being used. Case 3 illustrates the evil that may result from referring patients with loss of vision, to opticians for the fitting of glasses. Glasses are a therapeutic means to an end. In order to secure success it is necessary that a proper diagnosis be made, of which, it is obvious the optician is incapable. The importance of this, to the physician, can not be more forcibly stated than in the words of Patterson in his address delivered before the Academy of Jefferson Medical College, April 14, 1905, on the Law and the Doctor. "The consultant, the specialist, the nurse and the druggist are all 'independent contractors,' and each held liable for his own negligence, and the doctor is not held liable for the negligence of any of them, unless it be shown that, if selected by him, he has been negligent in their selection; or, in other words, that the individual selected is so generally known to be incompetent that a person of reasonable carefulness would not have selected him or her." The other cases lead us into quite a different domain, that of eyes blind, or partially blind, the result of plastic iridocyclitis due to injury or disease, exciting a similar disease in the other eye, which in most cases, when once established, results in blindness. Classically, two varieties of this disease are described, sympathetic irritation and sympathetic inflammation. A careful perusal of literature fails to find an author willing to state where the condition of irritation ends and the preliminary stage of inflammation begins. All the symptoms of the former may or may not be present in the latter. Both varieties are excited by similar conditions. In society proceedings it is noticed that most ophthalmologists agree that such blind eyes should be removed. Some, however, are willing to wait and watch, for specific indications, consoling themselves with the statement that such an eye is better than an artificial one and that sympathetic disease is rare; although statistics show that about one in 20 of such cases develops sympathetic inflammation. Among the leading text books, of recent date, one notes the following: "In eyes blind as the

result of destructive inflammation some time previous and which are quiet in every respect, the patient should be warned of the probability of sympathetic inflammation and instructed to seek skilled aid at the first symptom of irritation in either eye." In another: "As long as a sightless eye containing a foreign body is free from inflammation, causes no irritation to the other eye, and the patient remains under observation, enucleation may be postponed." Still a third: "An eye the vision of which has been destroyed by plastic iridocyclitis, or one which has atrophied or shrunken, provided there are tenderness on pressure in the ciliary region, and attacks of recurring irritation; or without waiting for signs of irritation, should be removed." That such instruction amounts to the doctrine of "laisser faire" is proven by these cases. One watched and waited 20 years, to the detriment of his health, and luckily recovered from the attack; the child was watched for 11 years, his general condition suffering, when finally only irritation, or the preliminary stage of inflammation, manifested itself. Another watched for five years, and is now blind, save for the 3/200 of vision in the injured eye. Lastly, and more important, is the case of the child who, though under the observation and treatment of a competent ophthalmologist, developed the insidious disease and is now nearly blind. It is to be noted that all these cases were painless. Is it not time that such instruction be eliminated from our text books, and the straightforward advice given that all such eyes be removed? The removal of an eye, in children is objected to on account of the supposed partial arrest of the development of the orbit and the consequent increase in the deformity. Observation and measurements show such not to be the case. At birth the weight of the two eyes, as compared to that of the body, is as 1 to 419; while that of the adult is as 1 to 4832; the body increasing 21-fold, the eye 1.8, and with the brain and ear, attaining its structure and proportions much earlier than the remainder of the body. The eyeball occupies about one-fifth of the cavity of the orbit. According to Merkel, the size of the base of the orbit, at 5 years of age, is only 2 to 3 mm. less in height than that of the adult. Dwight finds that "the height of the orbit bears very nearly the same proportion to the skull at all ages, that it equals barely a third of the adult face while it makes nearly a half of the face at birth." Byers made measurements of the base of the orbits in adult life, in ten cases, where the eye had been removed in childhood, and found but slight difference between the two eyes. In this connection we should bear in mind the lack of symmetry that is often found in normal faces, the center of one pupil being from 1 to 5 mm. further from the median line of the nose than that of the other, the same difference some times being noted in reference to the height. Operation: Enucleation is found to be the safest procedure, the modified operation with insertion of a globe in the scleral cavity being followed more frequently by sympathetic inflammation, resulting oftener in failure and being accompanied by such severe reaction as to render it unsuitable for old or debilitated subjects.

Discussion.

Dr. Oscar Dodd, of Chicago: Mr. President. —The paper of Dr. Loring is interesting, and such cases as have been reported are of interest to the general practitioner. I recall a case I saw a couple of weeks ago. The man was laying a gas pipe, a fellow-workman struck the pipe with a hammer, so that a particle hit the man's eye, but as a railroad train was passing he did not know but what it might have been a cinder that struck the eye. He was taken to a physician who examined the eye, and after some work (I do not know what was done by him) said a foreign body was not in the eye, and told the man it would be all right. This was on Thursday. The following Friday the man began to have pain; he reported his condition to the foreman of the company, and on Saturday I saw the case and found a penetrating wound a little outside of the cornea, and upon a more careful examination saw that something had entered the eye. An X-Ray picture disclosed a foreign body still present, probably in the back of the eye, as near as could be located.

This subject is of particular interest to the general practitioner, for the reason that all such cases should have skiagraphs taken. Those, of course, who live outside of a city, where an X-Ray apparatus is not at hand, should be sent to the city, and have a skiagraph taken if the inflammation and trouble do not

subside immediately. In the case I have referred to I was able to remove the foreign body with a magnet and saved the eye, as well as saved the company, which was responsible for this, probably several thousand dollars in damages, for the eye was nearly lost on account of the foreign body having remained there so long. I could see where it was quite firmly fixed in the coats in the back of the eye.

As far as sympathetic trouble is concerned, there are a great many of these cases, and as to the stump of an eye causing trouble, I recall one case sixteen years afterwards said he never had any trouble, but the patient came to me with failing sight, and at first I thought the stump of the eye had nothing to do with it. I finally decided, as his sight was rapidly failing, to have the stump removed. This was done. I saw him the other day, about five years after the removal of the stump, and his sight has remained perfect. All such eyes are dangerous, and the patients usually consult their family physician, who should understand that something should be done.

Dr. William H. Wilder, Chicago: There are several points in the excellent paper of Dr. Loring which deserve emphasis and closer attention than the doctor could give in the limited time at his disposal. One of these he touched on was the matter of physicians examining eyes. He hinted at the fact that certain physicians recommend patients to consult an optician, or some incompetent person like that, if there is any apparent defect in vision. A greater error could not be committed. Truly, it would not be proper for any physician of scientific mind to recommend his patients to go to an optician. This only happens in the country districts, and I do not believe intelligent physicians will recommend their patients to consult opticians when they have anything the matter with their eyes. I have known it to occur repeatedly that when a patient complains of defective sight a physician has recommended him or her, as the case may be, to go to an optician to get some glasses. The absurdity of that position can not be denied. The inaccuracy of such work is apparent, because it often transpires that defective vision may be due to malignant disease in the eye which may threaten the individual's life, and promptness is the only thing that can save the patient's life. Many cases of melanotic sarcoma have their origin or primary lesions in the choroid coat or uveal tract, and nothing but the prompt removal of the eye, before the stage of increased tension and ciliary redness, can save the patient's life. We see the absurdity of recommending a patient to go to an optician to have the eyes examined. I think there are a great many cases of eye disease which the general practitioner should feel himself competent to treat; but there are, of course, a great many he would not attempt to treat, but he should know, as in any other department of medicine, his own limitations, so that he may realize when a patient is safer in the hands of another practitioner than in his own.

Dr. Loring (closing the discussion): Dr. Dodd, if I understood him correctly, spoke of sympathetic inflammation occurring somewhat frequently. It is not generally known how frequently that occurs, as it is difficult to obtain reliable statistics. These statistics would vary somewhat, depending upon the locality or place where they are taken. Certain blind asylums give a higher percentage of one class of blindness than others. Let us take Oppenheimer's, in New York, and Magnus', of Germany. It is found that in this country we have 4 per cent of cases of blindness in the asylums due to sympathetic ophthalmia; while Magnus gives 4½ per cent. The number of cases of blindness due to ophthalmia neonatorum, to suppurative infections of the eye in this country is found to be 19 per cent, while in the German hospital it is mentioned as being 10⅛ per cent. The cases of blindess due to glaucoma in this country are quoted as 5 per cent; in Europe they are found to be approximately 8 per cent. Therefore, we see that there is a considerable percentage of blindness due to sympathetic inflammation, and this is a disease, so far as our present knowledge goes, that is practically preventable.

INVERSION OF THE UTERUS—WITH REPORT OF CASES.*

BY P. L. MARKLEY, M. D., ROCKFORD.

Inversion of the uterus is very rare, according to Beckmon. Not a single case occurred in 250,000 labours in St. Petersburg Lying-in-Hospital, while Madden noted it only once in 190,000 deliveries in Dublin. But it seems to me that it is much more common in Northern Illinois, at least, than these statistics would lead us to believe. The reasons for its more frequent occurrence may be various, but I will not discuss them, as there could be no proof to corroborate the assertions.

According to Kelly and other authors, the cause in acute cases, which is found immediately after labour, is traction on the cord. The chronic form is either simply a duced in the non-puerperal uterus along with duced in non-puerperal uterus along with the expulsion of a tumor attached to its walls. The commonest cause of inversion is a submucous fibroid attached to the fundus uteri.

Diagnosis: Williams, of Johns Hopkins, says inversion of the uterus is promptly fol-

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lowed by alarming symptoms, the patient presenting marked symptoms of shock with a weak, rapid pulse with a tendency to syncope. In other cases, convulsions occur, and a profuse hemorrhage is not infrequently noted. On the other hand the symptoms are very slight, and the condition may continue for several days without causing any serious annoyance to the patient. In rare instances the cervix may so retract about the completely inverted uterus that strangulation occurs, followed by gangrene.

Prognosis: According to Williams, if the condition is discovered promptly and the uterus replaced immediately, the prognosis is fair; Beckmon reporting a mortality of 14%. On the other hand, if strangulation or gangrene occurs, the outlook is bad.

Treatment: According to the author quoted above, in very recent cases, reposition can usually be effected without difficulty by pressure exerted by several fingers in the vagina, it being important to remember that the force should be directed upward in the axis of the superior strait. Neglect of this precaution undoubtedly accounts for a certain number of failures. Anaesthesia should be employed. If placenta is still attached to the uterus, it is generally advisable to defer its separation until reposition has been effected, because the contractile function of the inverted uterus being in abeyance there is always risk of profuse hemorrhage. On the other hand, if the patient is not seen until well advanced in the puerperium, and when the cervix is so contracted that reposition cannot be accomplished so readily, operative procedure becomes necessary.

In chronic cases one of the following three plans may be adopted:

First, by manual efforts.

Second, by vaginal amputation.

Third, by opening Douglas's pouch and incising the sac from fundus to cervix and reinverting.

Manual efforts at reposition should be made first. To do this, the tumor is squeezed with one hand to make it longer and smaller, and then pushed with the other hand, like a wedge, up into the cervix, through which it gradually returns in the reverse order of its formation, if the effort is destined to succeed. Another way is to grasp the tumor in the full hand, slipping the extended index and middle fingers of the same hand inside the cervical ring to dilate it, at the same time attempting to push the uterus up through the dilated ring. The other hand makes counter-pressure simultaneously through the abdominal wall, over the ring, helping to roll the cervical tissues back over the neck of the uterine tumor.

The difficulties in the way of a manual reposition are usually insuperable; they arise from the altered rigid fibrous character of the uterine tissue, with vascular engorgement and edema, as well as from the fact that the rigid neck of the inverted peritoneal sac is so much smaller than the body of the uterus which is to pass through it.

The surgeon is not warranted in making prolonged forcible attempts at manual reposition on account of the inevitable bruising of the tissues and the danger of laceration at the cervix. In a case of marked fatty degeneration of the uterine walls of six and a half years' standing, Dr. A. Martin, of Berlin, perforated them in attempting to effect a manual reduction; the patient died in collapse a few days later (Path. und Therap. der Frauenkrankheiten, 3d ed., Wien und Leipzig, 1893, p. 158).

A most natural suggestion to the surgical mind, in the present stage of abdominal surgery, upon the failure of manual efforts, would be to open the abdomen, to dilate the contracted canal from within by fingers and dilators, and then to push the uterine body up from the vaginal side through the enlarged canal into its normal position; this has been tried, but has not proved very successful.

Kelly says: "I note a failure of my own in a case of long-standing inversion with prolapse, in Philadelphia, eight years ago." The proposed plan was to open the abdomen and expose the neck of the inverted sac, and then to stretch this with long dilators,

and with the help of an assistant to force the body of the uterus up through the enlarged neck of the sac, producing reposition. He had further intended to prevent the recurrence of the inversion and prolapse by stitching the fundus to the anterior abdominal wall (Suspension of the Uterus, Chapter XXIV).

He opened the abdomen and exposed the narrow slit-like orifice at the site of the inversion, but his utmost efforts to make any impression upon the opening with fingers or dilators were unavailing, and he was obliged to abandon the attempt and relieve the patient by amputating the uterus through the vagina.

On the other hand, a successful operation of this kind was performed by Dr. T. G. Thomas, of New York, in September, 1869 (Amer. Jour. of Obst., Vol. II). The patient was put under ether, when an assistant so forcibly lifted the uterus up against the abdominal wall that the intestines were displaced and the cervical ring could be felt. A small incision was then made in the median line of the abdominal wall down to the ring, opening the peritoneum. The operator now grasped the inverted uterus in the vagina, and at the same time introduced a powerful steel dilator into the neck of the sac on the peritoneal surface. The dilatation proceeded easily and rapidly, and the uterus was reinverted and restored to its normal form in twenty-seven minutes. The patient recovered and left her bed on the eighth day.

The second method, vaginal amputation of the uterus, remains a satisfactory alternative in case of failure of the preceding means.

After a thorough cleansing of the field the uterus is enveloped in sterilized gauze, grasped, and drawn down and exposed by pulling back the posterior vaginal wall with a speculum, so that the neck of the sac at the vaginal vault is accessible. The amputation is now begun by cutting two flaps at the neck of the inverted uterus, one anterior and one posterior, just below the vault of the vagina. Before the peritoneum is opened three or four stout ligatures are passed with a large curved needle completely through the uterine stump in an anteroposterior direction.

The peritoneum is now cut through in front, and by continuing the incision cautiously out to the sides the uterine arteries and veins are found, clamped and tied as high up as possible with fine silk. An assistant keeps up a strong traction on the ligatures to keep the stump from inverting into the peritoneum. The operator now takes the ligatures one at a time and ties them tightly, bringing the lip of the stump firmly together. Additional deep sutures must be passed, if necessary, to check bleeding and secure accurate approximation. The stump closed in this way soon slips through the cervix, and a partial reinversion is established.

The most important point to bear in mind throughout is that the ligatures passing through the stump must keep the lips of the wedge-shaped incision firmly approximated, even after the reinversion has occurred. A dry dressing should be kept in the vagina; the sutures may be removed in ten days or two weeks.

Complete vaginal hysterectomy (panhysterectomy) may be performed by opening Douglas's pouch from side to side and the vesico-uterine pouch in front, and then hooking the index finger around one side of the cervix and passing a succession of ligatures through the tissue intervening between the finger and the vault, tying each ligature, and cutting between it and the cervix, taking care not to cut too near the ligature. The amount of tissue severed is small, and the uterine artery is soon ligated; and additional ligature must be applied to its free end.

The opposite side is ligated in like manner, and the uterus freed. The bladder does not enter the inversion sac. If there is no bleeding, the peritoneal surfaces of the wound may now be drawn together with a running suture, the ligatures arranged on the right and the left sides, and the vault of the vagina packed with iodoform gauze.

Prof. O. Kustner's method of reposition in chronic cases resisting simpler methods of reduction (Centralb. f. Gyn., 1893, No. 41) is in entire accord with the recent developments of gynecological surgery, and promises success in cases which it has hitherto been found impossible to treat in a conservative manner. Kelly says: I have not yet had a case upon which I could try it, but, in view of the apparent feasibility of the plan, I give the details of the operation. It is, briefly, this: The peritoneum is opened, posterior to the uterus, and the neck of the sac is incised, relieving the construction and making it large enough to push the fundus through. The steps are conducted in the following manner:

First, a wide transverse incision in Douglas's cul-de-sac opening the peritoneum.

Second, the introduction of the index finger through this opening into the the inversion funnel of the uterus, and separation of any adhesions found.

Third, a longitudinal incision through the posterior uterine wall, as nearly as possible in the median line. This begins about two centimeters below the inverted fundus and ends about two centimeters above the os externum, and extends all the way down to the peritoneum.

Fourth, reinversion of the uterus by fixing the funnel with the index finger in Douglas's pouch, and pressing in the fundus with the thumb of the same hand.

Fifth, suture of the uterine incision by deep and superficial sutures passed on the peritoneal surface.

Sixth, closure of Douglas's cul-de-sac with sutures. (Kelly.)

REPORT OF DR. G. M. HAINES.

CASE 1; Mrs. S., Primipara, age about 20—Time of pregnancy not known, but probably nearly or quite to the end of the eighth month.

I was called to see her October 22nd, 1894. She had been flowing slightly, but had no pain. Supposing it to be an attempt at premature labor I gave appropriate treatment and left her.

Was called again in great haste on the 25th. While sitting on a chamber she had had a very profuse hemorrhage; the blood coming from her with a gush. The rapidity of the bleeding had diminished considerably when I arrived, but was still quite free. An examination revealed a slight dilatation of the os, with the placenta coming down to the very margin, and possibly overlapping it a little. In due time she was delivered, although she lost considerable more blood. The child lived about four hours. She made fair progress from the time of delivery until the third day, when I was called and found that after quite a severe pain she had expelled quite a large clot, which was followed by a steady and profuse flow of blood. By palpation above the pubis I could not find any trace of the uterus. Examination per vagina revealed a large mass in that canal, having quite a degree of firmness, a careful study of which revealed it to be the inverted uterus. Calling Dr. Markley to assist me, we with considerable difficulty returned it to its normal condition, but on removing the pressure a part of it soon returned to its former inverted condition. The former site of the placenta could easily be defined, and after the first inversion, which appeared to be complete, had been returned little if any portion of the uterus was everted, except the placental site, which was the right posterior half of the lower portion of the body of the uterus. There was a free oozing of blood from the placental site, which was readily checked by the application of sterilized cotton saturated with hot water. All that portion of the uterus not above described was of normal consistency, and remained in normal position after the first efforts at replacement, but the segment referred to remained more than naturally soft and flaccid, or in a paralyzed condition, or as though the normal portion, by its contractile force, crowded the affected portion down and out, giving it the appearance of being simply everted.

The uterine cavity and the everted portion was thoroughly irrigated with hot water, as hot as could be borne, twice each day, five

or six days, during which time there was a gradual resumption of normal conditions, and she finally made a perfect recovery.

REPORT OF DR. BURTON, BELVIDERE, ILL.

CASE 2; Mrs. F. T. M., young woman, 20 years of age—First child. Difficult labor. Instrumental delivery. Was in severe pain for three days following confinement. Had a feeling, as she expressed it, as if something was coming down into the vagina, during the first three days following the confinement. On the fourth day she got out of bed to urinate and sat on a vessel. While straining the uterus come out beyond the vulva. She called her nurse, then fainted, and was put to bed severely shocked. She had no hemorrhage, but very severe pain. Her physician was immediately called, and found the uterus inverted and prolapsed. He tried to replace it, but only succeeded in returning it to within the vagina. Shock becoming more severe, he desisted further manipulation till four weeks later, at which time he was assisted by Dr. F. H. Kimball. They etherized the patient and succeeded, after long and tedious efforts, in placing it in its normal position. Her recovery has been slow, and even now, over five years since her confinement, she has not regained her health, frequently suffering severe pain in the pelvic organs.

REPORT OF DR. R. W. M'INNIS, BELVIDERE, ILL.

CASE 3; Mrs. W. P. W., young woman, 30 years old.—Second child. Was confined February 2nd, 1905. Labor was short and easy, child being born before the physician arrived. Her nurse was on hand. There was considerable hemorrhage. The physician in charge allowed the nurse to deliver the placenta under his directions. By slight traction on the cord and pressure on the fundus uteri the placenta was soon delivered. In a few minutes the patient complained of being faint; weak, rapid pulse; no severe hemorrhage. No pain, but all the symptoms of severe shock. An examination revealed an inverted uterus. Without an anaesthetic, with the method already described, the uterus was easily and quickly replaced and held there by a gauze pack, which was removed on the second day and not replaced. Patient kept in bed ten days and made a good recovery.

CASE 4; Mrs. C., young woman, 20 years old.—First child. Difficult labor; delivered with instruments. There was a severe shock following the delivery of the placenta, which was done a few minutes after the child was born. There was no great amount of hemorrhage. There was some traction on the cord and pressure over the fundus of the uterus, but probably no greater traction on the cord than physicians frequently use. The patient had a pale face; weak, rapid pulse and remained so for twenty-four hours. There were grave fears that she would not recover, but inversion of the uterus was not suspected. The physician who delivered the child and placenta remarked that he could not see why there was so much shock, as he was sure the uterus was well contracted; but the patient finally got better and was up and around, but always flowing and was very anaemic. She consulted the physician, who gave the anaesthetic at her confinement, four months after the child was born, for uterine hemorrhage. He made a vaginal examination and found a tumor in the vagina, and, remembering how the woman acted when she was confined, easily made a diagnosis of inversion of the uterus. At this time I first saw the patient in consultation, and was asked to operate the case.

Patient was put under ether, and after thoroughly sterilizing field of operation, proceeded to replace the uterus, which was completely inverted. Being in this condition four months, and about double the size of normal uterus, I did not think I would be able to replace it. I began by taking firm hold of uterine body with the hand, squeezing and at the same time pushing upward in the direction of superior strait. Very soon the cervix began to curl down, then I put a vulsellum forceps on both sides of same and had an assistant to make traction on forceps, while I pushed up on the fundus uteri. In a short time the external os was down even with the fundus uteri. After the fundus uteri had receded into the cervix

I packed hot gauze onto the fundus, which seemed to be very effective. By continuing this method of traction on the cervix with forceps, pressure on fundus by packing tightly with hot moist gauze, and some time spent in helping to dilate the ring of constriction with two fingers above the pubis, the uterus was replaced after one and one-half hours hard work. It was then packed with gauze, which was left in place two days, when this packing was removed and repacked with fresh gauze. This was repeated three times, then the gauze was left out. The woman was kept in bed twelve days and made a complete recovery.

REPORT OF DR. W. H. FITCH.

CASE 5.—In 1883 Dr. Fitch attended this case. Frail woman, 26 years old. First child. Normal delivery. About one hour after placenta was delivered, which was delivered in a few minutes after the child was born, the woman was in profound shock. There was no great amount of hemorrhage. An examination revealed an inverted uterus. The uterus was replaced with out an anaesthetic, and without difficulty, but the woman died in twenty-four hours from shock.

CASE 6.—Was not a complete inversion. Dr. E. C. Helm, Beloit, reports case as follows:

Mrs. M., aged about 25; second confinement. Lived about five miles in the country. Child born before the doctor arrived. The placenta was outside the vagina, but it was adherent to a partially inverted uterus. The fundus was down about even with the external os. The placenta was strongly attached to fundus and required about twenty minutes to complete the separation. There was little pain; not much shock or hemorrhage. Gentle pressure on the fundus uteri with hot gauze soaked in lysol solution replaced the uterus in two or three minutes. Did not use anaesthetic. The uterus was relaxed and flabby. With firm grip of hand on fundus and injection of ergot soon caused uterine contraction. Recovery was slow, but complete. She had a chronic endometritis.

CASE 7.—Dr. C. S. Sheldon, Madison, Wis., reports case as follows:

Occurred in 1903. Primipara. American, aged about 35 years. Large roomy pelvis with relaxed tissues. Pregnancy normal, only a great deal of stomach trouble, and two quite serious attacks of partial obstruction of the bowels. Labor normal, after waiting about twenty minutes, and there seemed to be the usual uterine contractions. I made gentle traction on the cord, when, during a violent pain, the placenta with the inverted uterus came down. I found the placenta attached to about the center of the fundus over an extent of three or four inches in diameter. I separated the adhesions, and should have immediately replaced the uterus but the degree of shock was so great that I thought best to send for assistance and give an anaesthetic before replacement. Meanwhile, though the shock was great and the pulse very rapid and feeble, the hemorrhage was not alarming. There was an interval of about thirty minutes before the arrival of assistance. When reposition was effected without difficulty. The condition of the patient was somewhat critical during the night following, but the next day reaction was satisfactory and recovery complete. The uterus was washed out three or four times with a weak formalin solution, as a prophylactic, otherwise no further treatment seemed necessary.

CASE 8.—Case of Dr. A. R. Franklin. Case occurred in 1899.

Mrs. S., 27 years of age. Second child. Tedious labor, but normal in other respects. After waiting about thirty minutes after child was born pressure was made on the fundus, according to Crede, and slight traction on the cord, when the placenta came away very easily, but it was followed by the inverted uterus and was adherent to the fundus uteri. There was considerable hemorrhage and all symptoms of shock. Assistance was called and an anaesthetic given, when, without much difficulty, the uterus was returned to its normal position and packed with gauze. The gauze was removed in about forty-eight hours and no further treatment required. Good recovery.

CONCLUSIONS.

1. We certainly are having more cases of inversion of the uterus than the statistics of Beckmon and Madden would lead us to expect. In private practice it is only possible to arrive at approximate figures, but I would say from facts that I have gathered that one case of inversion of the uterus in 5,000 deliveries would be very nearly correct for this locality.

A great difference from Beckmon's none in 250,000 deliveries and Madden's one in 190,000.

2. Traction on the cord seems to be a factor in producing inversion of the uterus, is shown in Cases 6, 7 and 8, where an adherent placenta undoubtedly produced the inversion. In Case 1 another factor is noted, and that is a paralyzed condition of the placental site. This undoubtedly was the starting point of the inversion of the uterus in this case. In another case reported here there seemed to be a gradual inversion, as indicated by a constant pain. Case 2 shows this; constant pain for three days following birth of child, then inversion was complete. A paralyzed condition of the placental site would account for this better than traction on the cord. Traction on the cord, in my opinion, is a factor in only a part of cases of inversions of the uterus in the list here presented.

THE OCULAR MANIFESTATIONS OF CHRONIC NEPHRITIS.*

BY L. E. SCHWARZ, M. D., CHICAGO.

The purpose of this article is not only to recount the eye symptoms of chronic nephritis with observations prompted by the writer's experience, but also to establish the value of these changes to the general practitioner, and urge the routine use of the ophthalmoscope in every case where nephritis is suspected. The condition of the refraction, the pupil and the media is usually favorable to a clear view of the fundus, and renders the examination less difficult than is supposed, and the retinal changes are, as a rule, so characteristic that once seen they cannot readily be forgotten. The writer wishes to emphasize the fact that he addresses his remarks to the internist and not the ophthalmologist.

Albuminuric retinitis, also termed renal retinitis, papillo-retinitis and Bright's retinitis, occurs in from twenty to thirty per cent of all cases. When present, it is usually a grave manifestation of the later stages of chronic interstitial and chronic parenchymatous nephritis, and on that account is looked upon with apprehension. Although generally bilateral, it may not begin at the same time in each eye, or involve them to the same extent, and shows no partiality as to age. It is certain that the term albuminuric retinitis is a misnomer in some cases, inasmuch as the conditions may exist in nephritis without albuminuria.

The etiology of albuminuric retinitis is the etiology of nephritis, whether acute or chronic, interstitial or parenchymatous, and is probably comprehended in the excessive formation or faulty elimination of endogenous or exogenous toxins. The types of retinitis in acute and chronic nephritis are exactly similar, the difference being that the first is caused by a concentrated toxin acting over a short period, and the second by the influence of an attentuated toxin for a longer time. Both the eye and the kidney are end organs, each provided with a terminal vascular system. This fact, with the increased tension and venous stasis, constitute very important etiological factors. Retinitis is most common in chronic interstitial nephritis, and least frequent in amyloid kidney.

The pathological process in the retina and optic nerve-head is a round cell infiltration, with fibrinous exudation, thickening of the internal limiting membrane of the retina, and dislocation or destruction of the rods and cones and pigment epithelium. The characteristic changes in the macular region are due to fatty degeneration and infiltration of the supporting fibers of Mueller, and the star formation has been explained by the radial

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arrangement of these fibers, and of the vessels. The greater number of the white points and plaques found elsewhere are caused by fatty degeneration of the hypertrophied granular layers of the retina, and by fatty degeneration, round cell infiltration and varicose hypertrophy of the *nerve fibers* (De Schweinitz). Anatomically, the most important changes occur in the vessels, both retinal and choroidal, in the form of endarteritis, periarteritis and hyaline degeneration. The small arteries are particularly affected.

A convenient classification of the forms of retinitis is the following, by Schöbl: (1) Typical albuminuric retinitis; (2) degenerative albuminuric retinitis; (3) hemorrhagic albuminuric retinitis; (4) albuminuric chorio-retinitis; (5) albuminuric neuroretinitis; (6) albuminuric papillitis; (7) saturnine retinitis. There is a constant merging of these types to some extent, but of the foregoing the degenerative group comprises by far the greater number of cases of retinitis seen, and deserves more than a brief description. The opthalmoscopic picture develops by three stages as follows: First, a hyperemia of the optic nerve-head and neighboring retina, the former becoming reddish, opaque, and slightly swollen, with edges ill-defined or invisible. The retina, in the vicinity of the papilla and macula, loses its normal transparency, becomes dusky, pale gray, or grayish-red, slightly swollen and shot with faint opaque stripes, but the peripheric retina is not involved. A few scattered, very small white or yellowish-white points soon appear in the crotches of the vessels (Suker) in the macular region, and near the disk, and the retina becomes splashed with flame-shaped, round or irregular dark red extravasations of blood. These hemorrhages are located in the nerve fiber layer, along, beneath and occasionally above the vessels, and show great variation in number and size. They recur frequently and absorb slowly. The retinal arteries are normal or slightly narrowed, and the veins are larger, darker and more tortuous than normal. Both arteries and veins are frequently bordered by white stripes, and at points along their course obscured by the opaque retina. The second or degenerative stage is ushered in by the appearance of numerous minute white or pale yellowish-white dots and spots in the macular region, and in the swollen retina surrounding the optic nerve-head the so-called circumpapillary zone. These points and spots rapidly merge or coalesce, forming iregular, brilliant white plaques, varying in size from pin points to areas of larger diameter than the disk, but do not form a continuous zone or ring around the optic nerve-head. There is little or no pigment disturbance at this time. The veins are now larger and more tortuous than in the first stage. The white plaques are not equally definite in outline or brilliant in color, some having ill-defined borders and a slightly yellowish tinge. It is to be remarked that while very numerous in and around the macula, these dots and plaques do not form the well-known star.

Of the third, or stage of atrophy, there are extremely few samples, inasmuch as the development of this stage is generally interrupted by the death of the patient. The plaques pass through gradations of white, gray and yellow, become indistinct and almost disappear. The optic nerve-head shows signs of incipient atrophy, and the arteries are much narrowed and in places even obliterated. Contraction of the visual field is not usual.

The so-called typical retinitis of Liebreich follows closely the dengerative form just described, both in its stages and development, with this addition: A continuous ring or zone, of snowdrift appearance, is formed around the optic nerve-head by the merging of numerous foci of fatty degeneration, while surrounding the macula similar points of degeneration, instead of coalescing, form in radiating lines or spokes, with the macula as a center, thus producing the much described stellate figure.

Hemorrhagic albuminuric retinitis (of the pure type) is most apt to occur in patients over fifty years of age, and shows a slight

hyperemia in the papilla, but no inflammatory change, either there or in the retina. The ophthalmoscopic picture is chiefly made up of very numerous hemorrhages into the retina of every possible form and great variety of sizes. The type is very rare, and its differential diagnosis is not always easy. Its prognostic value is alluded to farther on.

Albuminuric chorio-retinitis is uncommon, and is distinguished by the formation of exudates and more or less numerous pigment deposits, which may invade the retina, forming outlines to the plaques of degeneration. It should be remarked here that the choroid is more or less involved in all cases of the inflammatory type, but usually the changes cannot be detected by the ophthalmoscope, also that central choroiditis may precede the retinitis by several weeks. Albuminuric neuro-retinitis is a term which may apply to any of the foregoing types, merely by the addition of optic neuritis. This addition must necessarily render the case atypical, cause a transition of one form into another, or only exaggerate the existing type.

Albuminuric papillitis is very rare. The reddened opaque and enormously swollen optic nerve-head projects noticeably above the level of the surrounding fundus. The altered vessels turn sharply over the toad-stool-like surface to reach the level of the retina, and in places entirely disappear in the semi-opaque tissue. The veins are greatly distended and very tortuous. The condition terminates in atrophy, if not interrupted by the death of the patient. The same conditions are produced by cerebral neoplasms and cysts.

Lead poisoning is the etiologic factor in Saturnine retinitis, and produces fundus lesions similar to those found in the degenerative form. The belief is held by many that in a respectable percentage of cases nephritis does not exist, and that the metallic poison acts directly on the eye.

Complications are more or less infrequent. The list includes embolism of the central artery (Völcker); thrombosis; rarely plastic iritis; recurring subconjunctival hemorrhage (Talko), Samelsohn, Schöbl); hemorrhage into Tenon's capsule (Wharton Jones); amotio retinæ; amblyopia; and hemorrhagic glaucoma (De Wecker, Mooren, Jocqs).

Albuminuric retinitis is not pathognomonic. This sentence tells the story as far as diagnosis is concerned. Diabetes, cerebral tumor, cerebral cyst, anemia, arteriosclerosis and chlorosis may cause the same retinal changes as nephritis. The lesions are easily recognized, but the nature of the coexistent systemic disorder cannot be determined with the ophthalmoscope alone. The burden of the diagnosis must rest almost always on other data, although the infrequency with which the type occurs in other diseases makes it a strong diagnostic factor.

The prognostic value of retinitis is greatest in those patients under fifty years of age; beyond that point it is futile to interpret this sign, because general circulatory and other conditions are of greater importance. Observers agree with unanimity that the prognosis in typical cases is extremely unfavorable, both as to life; and, in prolonged cases to vision. Death usually occurs eighteen months to two years after the appearance of the retinal changes, but in rare instances the patient may live six years, or even longer. The damage to vision develops slowly, and is entirely subordinated to the grave general condition.

Sudden blindness may be due to hemorrhage, but is usually caused by uremia. Transient amblyopia is common, varies according to the condition of the patient, is not dependent on the retinal lesion, and has no especial value in the prognosis. The very rare hemorrhagic form of retinitis is commonly thought to point an invariably fatal prognosis, but the writer's experience does not accord with this belief. Concerning the value of unilateral retinitis, the few cases noted by the writer occurred in the course of rather mild nephritis, and although the ocular symptoms were severe, remarkable visual acuity was preserved throughout and the patients have progressed favora-

bly. According to Fox, when subconjunctival hemorrhages occur, they precede both retinitis and nephritis by a long period.

The conclusions to be drawn are as follows:

1. An ophthalmoscopic examination should be made in all cases where nephritis exists or is suspected.

2. The non-existence of retinitis must not be inferred because visual disturbance is absent.

3. Ocular manifestations are invaluable where nephritis without albumin exists.

4. The severity of the renal symptoms does not influence those of the eye necessarily.

5. Retinal changes may occur before any definite clinical symptoms of nephritis develop. See 7th.

6. Unilateral retinitis gives a relatively hopeful prognosis.

7. Retinitis may be the first indication of nephritis, even in the later stage.

8. The prognostic value of the hemorrhagic type is not greater than that of other forms of albuminuric retinitis.

MEDICAL TREATMENT OF NEPHRITIS.*

BY ARTHUR R. ELLIOTT, M. D., CHICAGO.

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Many excellent recent contributions fully discuss the nutritive problem of Bright's disease and leave little to be said regarding its dietetic treatment. Among notable contributions may be singled out for mention and commendation the work of von Noorden and his associates. As an outcome of these and other investigations, we find that the dietetics of Bright's disease is today on an unquestionably more advanced and rational basis than in former years. If any criticism is to be passed on the correctness of the conclusions of von Noorden and others who have worked along similar lines, it is that in their investigations attention has been too exclusiveely focused on the kidneys. Undoubtedly the principle of economy of work to diseased organs is scientifically a sound one, but in the disease under discussion the fact must not be lost sight of that we have to deal with a widespread nutritive perversion of which the nephritis is but one manifestation. While we must admit that in most cases the kidney lesion in the end vindicates the claim to first importance, other organs demand attention during the progress of the disease, and contribute very largely to the symptom group which characterizes this affection. These other considerations oftentimes of equal importance with renal demands must be taken into account in the framing of a dietary, and for this investigators have made little allowance. Among important indications which must be taken under consideration are the digestive powers of the patient, the functional capacity of the liver, especially its toxin-destroying power, the presence of anemia or plethora, and often most important of all the cardiac condition and the degree of blood pressure. No routine diet can, therefore, be laid down for the patient with chronic Bright's disease. If the patient be a confirmed dyspeptic, our measures for diagnosis of the gastric and intestinal states must be as careful and exact as are employed to determine the urinary condition. Such a patient may perhaps be best dieted for his dyspepsia, without regard for the nephritis, the latter being thus most benefited by measures directed to control of the digestive toxemia. In the presence of marked anemia a certain disregard of circulatory and renal consequences may be justified in our efforts to improve the blood state. With low tension a comparatively full diet, rich in proteids, without restriction of fluids; in cases with high tension, a low diet, poor in animal proteids and restriction of ingested fluids is indicated.

In cases marked by cardiac irritability and signs of circulatory failure, the indications for diet must be taken from the heart and circulation more than from the kidneys, such cases becoming in effect cases of heart disease more than renal disease.

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In short, each patient coming under observation for chronic Bright's disease should become an individual study, and the indications for its management must not be interpreted according to any fixed rules of procedure, but be founded on the results of careful and complete clinical investigation, the lines of treatment being directed in the order of their importance, according to the patient's complete organic needs.

To fully discuss the treatment of chronic nephritis with its wide range of associated systemic defects is a task too great to accomplish in the short space permitted. I have elected to present the subject in the following simple and practical order: (1) Treatment of chronic nephritis without dropsy; (2) treatment of chronic nephritis with dropsy; (3) treatment of uremia.

The existence of dropsy in chronic nephritis cannot, of course, be taken as a basis for classification, and it is even a rather arbitrary procedure to attempt to develop clinical distinctions from this point. Still, as a rule, cases coming under observation fall naturally into two groups — those without and those with edema.

Cases of the first class — those without dropsy — are principally examples of the type chronic interstitial nephritis during the stage of cardio-vascular compensation. It is true that chronic diffuse nephritis may occasionally display no dropsy, but, as a rule, more or less edema is manifest in this type of the disease. The main indications in the management of this type of chronic nephritis may be summed up in the protection of the kidneys from irritation, especially the strain imposed by intercurrent acute toxemias, and the maintenance of cardio-vascular compensation. The first of these two indications is fulfilled by careful regulation of the patient's diet and personal hygiene. The question of the best diet suitable to these cases I will not enter into, owing to the elaborate care which has recently been expended on this subject by eminent authorities. The personal hygiene of the patient is hardly a less important matter. In order to engage the full co-operation of the patient, it will be well to state his case fully to him, emphasizing its necessities and the importance of strict obedience. In submitting our advice as to diet and hygiene, the patient is to be informed that the directions are for his permanent guidance, and to prevent misunderstanding we should furnish him with full written particulars of the course to be pursued. The proper clothing, baths, etc., for these patients will not occupy our attention now, owing to the familiarity of such details. We should urge these patients to such a regulation of their lives as will enable them to spend a large share of their time in the open air — especially in the country, where the diet, pure air and primitive physical environs simplify the nutritive problem and furnish immunity from accidental infections. The open air treatment is well-nigh as striking in its beneficial effects in nephritis as in tuberculosis. Exercise is of vital importance to these subjects. A good gauge of the patient's endurance is found to be a feeling of oppression and fullness in the chest, and instruction must be given against walking so far or so fast as to produce this uncomfortable sensation. It is well to advise our patients with this disease to avoid high altitudes, the limit of safety for residence purposes being 3,500 feet above sea level. Oliver's blood pressure observations show that above that point the circulatory pressure rapidly increases. Medium altitudes—about 2,000 to 3,000 feeet — will lower mean arterial pressure, and this may be considered in sending patients with plus pressure to the mountains. In directing our patients regarding the amount of water they are to drink, our advice must run counter to popular prejudice. The excretion of urinary solids cannot be materially increased by copious water drinking. Moreover, arterial pressure is raised and the mechanical burden of the heart is increased thereby. Our advice must, therefore, be in favor of a strictly moderate indulgence in fluids and against overindulgence, and the patient is to be especially warned against the injurious effects of the immoderate use

of mineral waters, of which sanitarium and "spa" treatment so largely consist.

The doctrine of "moderation in all things" is to be preached in season and out of season to these patients, the end in view being to suit the amount of work required to the capacity of the diseased organism for its performance — in short, to avoid hyperfunction.

Two indications of vast importance to the case of chronic nephritis require special mention. They are the care of the bowels and the maintenance of cardio-vascular equilibrium.

The nephrolytic action of the toxic products of disturbed digestion is now well recognized. Constipation undoubtedly favors the formation of these bodies. In addition to their renal effects, they increase arterial tension. Our utmost care should consequently be directed toward securing regular evacuation of the bowels. The action of aperient drugs should be supplemented by high rectal enemata, administered in the knee-chest or recumbent position at regular intervals to prevent fecal stasis in the colon.

In chronic nephritis there develop sooner or later during its progress certain well-marked cardio-vascular changes, consisting of sclerosis of the arteries and cardiac hypertrophy. The essential feature of the circulatory state is high arterial tension. This is true not only of so-called chronic interstitial nephritis, but even when chronic nephritis follows acute infective nephritis, the change is marked by development of increased blood pressure and cardio-vascular sclerosis. The majority of cases when they come under observation manifest typical high pressure symptoms, but if no edema is present we may infer that the compensatory cardiac hypertrophy is still secure. The cardiac compensation is, however, one of tense adjustment, becoming constantly more sensitive to disturbing influences. The changes in the arteries are progressive and the increased blood pressure permanent, so that it is only a question of time when increasing peripheral resistance will outstrip the power of the heart to cope with it, and dilatation of the ventricles result. When that time arrives, the diminishing urine, increasing albuminuria, and uremia will leave us in no doubt as to which organ has conserved the life of the patient. Kidneys which can amply maintain their function under increased cardiac force and high blood pressure become miserably inadequate when such support is removed. The clinical history of the large majority of cases at their termination is that the excretion of urine was sufficiently good for the maintenance of life, and that death originated in cardiac failure or resulted from one of the cerebral accidents of excessive arterial tension. This being the case, it is a matter of the first importance to direct our efforts toward the regulation of the circulatory effects of the disease. The *indicatio causalis* for the preservation of an adequate heart is to regulate within safe bounds the arterial blood pressure. We must not, however, lose sight of the fact that a certain degree of increased arterial pressure is necessary for the comfort and safety of the patient. Samuel West has said: "The patient is best without granular kidneys, but if the kidneys be granular it is better that the tension be high than low." The experience of the writer is that no cases are so hopeless and unresponsive to treatment as those marked by low tension. In the treatment of cases of chronic nephritis some instrument for the estimation of the blood pressure is necessary, and the sphygmomanometer should be employed to conduct routine observations from time to time. The physician who depends upon his stethoscope only for information as to the circulatory state of these cases is apt to be more a detriment than a help to his patients.

In the treatment of high pressure cases the basic indication is the removal of the underlying toxemia which causes the widespread vaso-constriction. This is accomplished best by careful dietetic and hygienic regulation, and assisting the kidneys by securing free elimination from the skin and bowels. When these requirements have been fulfilled and the tension remains persistently

elevated, we must have recourse to vaso-dilator medication to mitigate the exhaustive conditions imposed on the heart. We must realize the limitation of such medication, and as it constitutes purely symptomatic treatment, never depend on it to the neglect of hygienic and dietetic measures. It is a comparatively easy thing to reduce the systolic blood pressure a number of points within a few minutes by means of the administration of an active vaso-dilator, such as nitroglycerin. The effect of such a dose is unfortunately very transitory, and, notwithstanding the striking temporary effect, the fact remains that it is a difficult thing to produce a permanent reduction of blood pressure by means of vascular drugs. Persistent routine medication alone will effect such a result. At what point in chronic nephritis are we warranted in commencing vaso-dilator medication. Much will depend on the patient's general sense of well-being and absence of symptoms, but it may be stated that when cardiac irritability or evidence of disturbed cerebral circulation (dizziness, tinnitus, etc.) appear, interference is warranted. For the rest, we must depend upon the readings of the sphygmomanometer. As a rule, a systolic blood pressure of over 150 mm. of Hg. is necessary to produce symptoms. At this point hypotensive medication may be instituted. The patient should take a morning saline laxative of magnesium sulphate, Rochelle salts, or one of the aperient mineral waters. A mercurial purge at intervals of a week or ten days is often of the greatest benefit, exercising a double effect both as a peripheral dilator and by increasing the toxin-destroying function of the liver. A vaso-dilator excellent for its permanent influence is a combination recommended by Brunton (Deutsche Med. Wochen., Leipsic, Von Leyden number, 1902). This consists of:

Potas. Bicarb.	1.8
Potas. Nitrat.	1.2
Sodi. Nitrit.	0.3

The potassium salts are said to have a paralyzing effect on the heart. This effect is desirable in cases requiring less energetic heart action and increased permeability on the part of the arteries, thus lowering pressure at both ends of the circulation. A decided diuretic effect is also secured by the potassium salts. The writer has employed this combination in a number of cases with the greatest benefit, giving it twice daily, well diluted. Another excellent vaso-dilator for continuous use is erythryol tetranitrat. It may be administered in one-fourth grain doses several times daily, until a mild headache is produced, when the dose is slightly lowered. This drug may be used for weeks and months with good effect, discontinuing it for a week during each month. Another vasodilator of which I hesitate somewhat to speak is aconite. This drug is enthusiastically lauded by W. H. Thompson (Medical Record, May 16, 1903) for its effects on excessive arterial tension in Bright's disease, and he reports some striking examples of its efficacy in cases marked by asystole, with high tension. He orders it in five minim doses every three hours. Although it is difficult to explain the vascular effect of this drug, since it is not a direct vaso-dilator, but rather a cardiac sedative acting through the vagus mechanism, the empirical fact remains that it will lower blood pressure in an astonishing manner. In a recent case of my own a blood pressure of 247 mm. (Riva Rocci, 9 cm.) was reduced 50 points in a few days by aconite with great benefit to the patient's condition, the maximum dose employed being seven minims every three hours. In using the drug, I prefer to begin with small doses in order to guard against idiosyncrasy and afterward gradually increase to five minim doses, or higher. It is hardly necessary to state that so powerful a depressor drug as aconite should be used with every care, and only in cases marked by excessive tension and threatened heart failure.

Iodide of potassium is another means of lowering tension, of which the writer can speak with satisfaction. It is difficult to say in what manner it exerts its effect, as iodine is not a direct vaso-dilator. Recent

observations would indicate that it acts by diminishing the viscosity of the blood, and in this way reduces capillary friction, and so lowers peripheral resistance. I know of few medicinal effects more satisfactory than the manner in which prolonged iodide administration will protect the heart from the ill consequences of high tension. It must, however, be given more or less continuously for long periods, covering in fact months and years. In the presence of high tension some restriction of fluids is indicated, and the patient's habits are to be carefully revised to avoid physical and nervous overstrain.

In the stage of sustained blood pressure and adequate heart without edema, digitalis is to be withheld, as its use is unscientific and harmful. The other cardiac tonics come under the same ban. Diuretics are unnecessary, and do no good. In fact, no medication is indicated other than cardio-vascular regulation, and such measures as may become necessary to overcome intercurrent functional troubles. Intercurrent illnesses, however slight, during chronic Bright's disease should be followed by prolonged convalescence, owing to the circulatory strain constituted by effort in a reduced condition.

Whenever the heart, which has hitherto performed its work satisfactorily, suddenly displays vagaries of action, it should not be taken unreservedly as a sign of failing compensation. Some underlying reflex cause will usually be found, the correction of which will avoid serious damage to the heart. Early evidence of genuine cardiac incompensation calls for positive action. This need not necessarily consist of digitalis or other cardiac tonics, for rest in the recumbent position, restriction of fluids and general tonic measures will often restore the working capacity of the heart. Should the derangement of the cardiac action threaten to produce or actually result in dilatation, digitalis is indicated.

When the patient with chronic nephritis has become edematous, one of two things has happened: He has either developed diffuse inflammatory changes in the kidneys, or the heart has dilated. The nephritis may, of course, have been a chronic diffuse process, marked by dropsy from its inception. On the other hand, it is quite as likely to be a case of chronic interstitial nephritis, which has become converted into a diffuse nephritis by means of acute renal irritation from cold, excesses or acute intercurrent infection. It is also a fact that a large number, if not the majority, of cases displaying dropsy are chronic nephritis with failing heart, the dropsy developing as a result of ventricular dilatation. Dropsy in the course of chronic renal disease is not necessarily renal dropsy. It is quite as frequently cardiac dropsy. A better word would probably be cardio-renal dropsy. The distinction is important, especially from the standpoint of treatment. When we can decide that the dropsy, suddenly occurring during the progress of chronic nephritis, is due to an acute exacerbative inflammatory attack, the patient should be put to bed, placed on a light milk-farinaceous diet; sweated and purged until the renal congestion subsides. Baccelli (Münchener Med. Wochen., L, No. 52) has recently recommended in this form of renal congestion the withdrawal of 300 c.c of blood from the vena pedia. He reports great benefit and his results have been verified by others. By this procedure he seeks to lower blood pressure in the ascending vena cava, and so by creating a suction force in the venous channels relieves the congestion in the kidneys. The results are neither so prompt nor so energetic when the blood is withdrawn from the arm. After the renal engorgement has subsided, and the edema disappears, it is important to insist on a long gradual convalescence, to ensure a full return to former conditions.

When the dropsy is extensive and due to established diffuse nephritis, we are forced to rather round-about means to relieve the renal blockade. Diuretics have next to no influence over purely renal dropsy, and their use will prove disappointing. Prolonged rest in bed is often of the greatest benefit, and should be enforced. These cases should be treated on the "little water and no salt"

plan. Fluid intake should be restricted to the lowest amount compatible with comfort. The principle of dechloruration is to be enforced. Time will not permit of a discussion of this interesting contribution to our treatment of edemas. Since its introduction two years ago, it has earned for itself an established place in physiologic therapeutics as solving one of the underlying factors of dropsy, both cardiac and renal. In severe cases of anasarca the patient is to be entirely deprived of salt. In moderately severe cases the degree of diuresis may be taken as a criterion of the amount of salt we may permit the patient. As the normal percentage of chloride of sodium in the urine is about .5 per cent, we can safely permit as many half grams of salt as there are 100 c.c.'s of urine. For instance, when the daily urine amounts to 1,000 c.c. the patient can ingest 5 grams of salt. As a diuretic in renal dropsy we possess no better measure than colonic irrigation. The effect on the renal gland activity of this measure is often remarkable. Large volumes of solution at a high temperature are to be used. Decinormal salt solution is a violation of the dechloruration principle, consequently bicarbonate of soda solution of the same strength is to be preferred. From two to four gallons of this solution, at a temperature of 110° to 120° F., are allowed to flow into the bowel through a Kemp's rectal irrigator or double-flow rectal tube. The single precaution necessary is to provide against a further increase of tension in high-tension cases by simultaneous use of a vasodilator.

When the degree of dropsy is such as to produce severe tension of the skin, the legs and scrotum may be drained by punctures under aseptic precautions. Hydrothorax, if the amount of fluid in the chest is such as to embarrass the heart's action, should be relieved by tapping, and ascites of high degree will require paracentesis. These latter measures may be repeated as often as the indications are renewed. I cannot recall that I have seen the anemia increased or the patient's condition prejudiced in any way by repeated paracentesis. On the contrary, by temporarily relieving pressure on the venous trunks, we exert a favorable influence over the renal engorgeemnt. Energetic diaphoresis offers us a valuable means of relieving renal engorgement, and assisting the kidney in its elinative functions. Bendix (Deutsche Medicin. Woch., XXX, No. 7) found that when the freezing point of the blood was normal (5.6° °C), the most energetic sweating process failed to influence it. When, however, it was pathologically low, as in chronic Bright's disease, sweating raised the freezing point to normal, showing that more solid substances were eliminated under these circumstances than when the freezing point remains at a constant level. This is particularly noticeable in cases of uremia. These experiences emphasize the value of energetic sweating processes in nephritis. If the blood count shows the patient to be anemic, some form of iron should be administered, although it is well to remember that the anemia being of toxic production is not so readily influenced by hematinics as under other circumstances. Valuable as iron is in the anemia of Bright's disease, its indiscriminate use in the form of Basham's mixture has unquestionably done a good deal of mischief. Basham's mixture is prescribed with a freedom in all forms of Bright's disease, as if it were regarded as a specific for nephritis. It never was suggested that it possesses any curative value, but is merely a remedy for anemia, as under other circumstances. Not every case of Bright's disease is anemic, and it is clearly not indicated in non-anemic cases. In chronic interstitial nephritis it may do positive harm by helping to raise blood pressure. It is most useful in chronic diffuse nephritis, because this form is most frequently associated with anemia.

In cases of dropsy with dilated heart occurring in chronic nephritis, the treatment will differ materially in some essentials. Simple rest in bed will often bring about a restoration of heart function and subsidence of dropsy. Unfortunately many pati-

ents with high tension and failing hearts are very uncomfortable in the recumbent position, suffering from asthmatic symptoms and dizziness. These symptoms are the result of elevation of blood pressure in the lying position. Vaso-dilators may serve to control this, but often one is compelled to compromise on the sitting position, even allowing the patient to spend nights in a chair. These are cases which display the inverse pulse and paradoxical rise of blood pressure on lying down. Prolonged rest in bed, even in patients who can do so without discomfort, is hardly desirable in cardiac hypertrophy of Bright's disease. The dynamic forces of the circulation being lowered by bodily inactivity, a rise of blood pressure in the vena cavæ throws still more upon the already weakened heart, the work of mainting the circulation.

The drug *par excellence* in cardio-renal dropsy is digitalis. Any reliable preparation of the drug may be employed. I have never been able to satisfy myself of the superiority of the infusion in these cases. In giving digitalis it is necessary to guard the patient with Bright's disease against the vaso-constrictor influence of the drug by means of the simultaneous use of a vaso-dilator. The only exceptions to this rule are constituted by those rare cases in which the blood pressure is low throughout the disease, and in cases where the cardiac weakness has caused secondary low blood pressure. A drug of great value in cases of cardio-renal dropsy is theobromine and its salts, the salicylate and sodio-salicylate (diuretin). Very remarkable results are sometimes secured by the administration of these preparations in dropsy, with underlying cardiac causes. There is evidence accumulating that leads to show that theobromine acts upon the heart by stimulating the elimination of retained chlorides, and so secondarily improves the heart's action by lessening the circulatory load. When the heart is weak, the patient must be well nourished, and receive a fair proportion of proteid food. Severe and restricted diets are to be avoided in nephritics with bad hearts.

The patient with chronic nephritis is never entirely free from the danger of uremia. Although its development is usually a progressive and gradual affair, it not infrequently falls suddenly upon the patient without warning. We sometimes see a case in which uremic coma or convulsions is the first symptom to betray the presence of chronic Bright's disease. Any acute intercurrent disturbance, such as a simple cold or diarrhea, may serve to precipitate a violent uremia. Gastro-intestinal disturbance especially favors the development of the uremic toxemia, often no doubt by inducing bacillus coli commune invasion of the kidneys. This fact emphasizes the importance already referred to of keeping a clean bowel.

In the presence of uremic manifestations, however slight, purgatives are to be employed without hesitation. It should be one of the rules of treatment in nephritis to give a purgative each time the patient complains of headache, dizziness, mental hebetude, dyspnea, etc., all of which may prove to be precursors of uremia. At the first appearance of uremic symptoms all proteid food should be withdrawn. Strubell (Wiener Klin. Woch., July 8, 1901) found that dogs with experimentally induced uremia lived twice as long when fed with carbohydrates as when fed on proteids and fats.

Our blood pressure observations will enable us to gauge in some measure the imminence of uremia, the intensity of the uremic toxemia being accurately expressed by the arterial pressure, which as a rule rises steadily as the toxins accumulate. An increasing blood pressure should, therefore, put us on our guard. In acute uremia an important point is gained by lowering blood pressure. Our best and speediest vaso-dilator to relieve the high tension of uremia is venesection. This measure exerts its best effects in uremia complicating acute nephritis. It is of less dependence in chronic nephritis, and is only to be used in sthenic cases with high tension. It is to be avoided in asthenic and far advanced cases. The relief following venesection is transient, but may serve

a good purpose when supplemented by other active measures, such as sweating, enteroclysis, catharsis. Sweating should be carried out vigorously and as soon after onset of the uremia as possible. As soon as free diaphoresis has been induced, the sweat may be temporarily interrupted, as its persistence for too long a time may become a harmful influence. Enteroclysis by continuous irigation of the colon with large volumes of hot bicarbonate of soda solution constitutes one of our most active measures for inducing diuresis and diaphoresis. Subcutaneous saline infusions, although beneficial in the uremia of acute nephritis, are much less effective in uremia of the chronic disease.

Time will not permit of further discussion of measures employed to combat uremia. Reference may, however, be made in conclusion to lumbar puncture. Seiffert (Münch. Med. Wochen., LI, No. 10) has employed this measure extensively in acute uremia, with great benefit. It may be employed in uremic coma and convulsions of chronic nephritis, although probably with less likelihood of success. Le Grain and Marie speak highly of the effects of this procedure in uremic headaches.

There are many important points which are not touched upon in the foregoing brief consideration of the treatment of chronic nephritis, and the writer is compelled to forego from lack of time any reference to the treatment of complications, and special phases of the disease.

The ability of the organism to adjust itself to the disturbed equilibrium of impaired organic health is marvelously displayed in many incurable diseases of important organs, and we often stand amazed at the length to which the thread of life is spun, notwithstanding the gravest organic lesions. Under no circumstances is this faculty for adjustment so wonderfully illustrated as in chronic kidney disease. Despite the most serious defects, nature's compromise not only preserves a balance of fair health, but does so for astonishing periods. A realization of this fact should be a warning to us that nature needs our assistance only, seldom our interference.

There is no room for pessimism in our attitude toward this disease, and while obviously there is no remarkable cure to be performed by any mode of treatment, careful regulation of the life, and attention to little details, judging nothing unimportant, will secure results which are unsurpassed in any of the chronic dystrophies. The two indications most important in this disease, in the estimation of the writer, are to protect the patient from intercurrent acute disturbance, and maintain the compensatory adjustment in the circulation.

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Discussion.

Dr. Geo. F. Butler, Chicago: Dr. Mix failed to call sufficient attention to the nervous symptoms of chronic nephritis, which, it seems to me, are more important than the gastro-intestinal symptoms. Many cases I have seen have first complained of loss of temper, anxiety, inability to arouse their mentality and other nervous manifestations; while their gastro-intestinal condition has been excellent, and only later do they complain of gastro symptoms. I merely want to bring out the point of nervous manifestations early in the disease.

Nearly all manifestations of chronic nephritis are due to a toxemia, and it is the faulty elimination that we must treat; the symptoms, not the disease. I know of one case of interstitial nephritis who limited his meals to one in twenty-four hours. He improved markedly. It is not so much a question of variety of food as one of quantity. Most of these cases eat too much.

In these cases precision in diagnosis is very important. We must examine carefully the heart and the whole circulatory system in arriving at a diagnosis.

As to diuretin, I have found that its action varies considerably in these cases. Some it makes very much worse, even within twenty-four hours; while in others it acts like a charm. If after using it for three days, of fifteen grains each, I do not get a marked improvement, as shown by a decrease in the urine, I discontinue it.

As a vaso-dilator, when dilatation of the blood vessel is necessary, and especially in cases where you have to use a heart tonic or stimulant, but still want to overcome the action of digitalis on the blood vessels, I use a little deodorized tincture of opium. Theoretically, that is wrong; but clinically, I find that it has an excellent effect on the blood vessels.

Another alkaloid I wish to mention is, ..., which seems to have quite an influence in lowering the tension, when that is necessary.

Dr. Long,.....: I would like to ask Dr. Mix whether inhaling the fumes of prussiate of potassium is likely to produce a nephritis that will, apparently, recover entirely in the course of a year if the patient is taken away from his work. I had a case where the patient was almost ready to die. He was a blacksmith and was always inhaling the fumes of prussiate of potassium. He has recovered, although he was very edematous and the urine was characteristic of nephritis. There has not been a recurrence of the trouble.

Dr. E. J. Brown, Decatur: The question of prognosis in Bright's disease is of interest to me, and in this connection I desire to mention one case occurring 20 years ago. The late Dr. Purdy was with her at that time for twenty-four hours during an attack of uremia. She is now in excellent condition. She has been dieting and living carefully for 20 years and is in fair condition today.

As to the dechloridation treatment of dropsy. I have been employing that treatment for the past year in all cases of dropsy, wether of nephritic or cardiac origin, with most excellent results. It is somewhat difficult to deprive a patient of all salt. I use unsalted butter, or wash the salted butter; have all bread baked without salt, but as the dropsy lessens, I allow them some salt.

I am glad to have Dr. Elliott tell us how much salt we can use. There is nothing that has given me so much pleasure and satisfaction in the treatment of nephritis as this method of salt reduction.

Dr. J. R. Pennington, Chicago: Dr. Elliott made mention of one point on which I wish to speak — the use of a tube for colonic flushing. I use a tube that has a return flow. If you want to get the full effect of irrigation, and want the water at a certain temperature, you fill the bowel and empty it again. In order to do that, you must let the fluid flow in, break the current, and allow the fluid to flow out again

The double flow current will not give as much satisfaction. That can be demonstrated very easily if you will take the trouble and experiment with a couple of rubber tubes. Pass them into a bottle, and let the water flow in and out. By using colored solutions, you will find that the water, in time, will distend the colon above. It does not empty the bowel; it does not produce peristalsis, and you do not get the desired effect from the irrigation.

For colonic lavage, I use a self retaining tube provided with only one opening, and I have found it extremely satisfactory.

Dr. Wm. J. Butler, Chicago: In speaking of the diagnosis of chronic nephritis, I believe Dr. Mix stated that the urine might be of any specific gravity, up to 1020. I presume we have all experienced the same thing with chronic nephritis in the presence of an acute exacerbation or a failing heart, but I do not think that we should discard the diagnostic value of a low specific gravity of urine in chronic nephritis.

The cardio-vascular changes in chronic nephritis are not pathognomic, because there is a cardio-vascular condition which sometimes occurs, although rarely associated with a small petrithelioma of the suprarenal capsule that stimulates the cardio-vascular conditions of chronic nephritis. I recall a case in point. A few years ago I saw a child of ten or eleven years of age who had an enormous left heart, with high arterial tension, but no valvular lesion. Post mortem, no affection of the kidney; or adherent peri-cardium was found, but a small perithelioma existed which the pathologist gave as an explanation of the cardiac condition, because there was no old myocarditis or adherent pericardium that might have accounted for the condition, and no valvular lesion or nephritis. In a case of adherent pericardium, the result of an old peri-carditis, in a child, it is not unusual to see a large left heart.

It is not an uncommon thing to see a so-called iodio-pathic hypertrophy of the heart in a child, whose arterial tension may have been quite high, and post mortem find an old myocarditis resulting from some past acute infection or an adherent pericardium, which resulted in an enlargement of the left heart and, consequently, increased arterial tension.

However, the value of cardio-vascular changes, from a diagnostic standpoint, in chronic nephritis can in no way be lessened by the mention of above points. Still they do occur, and may result in very large left hearts and high arterial tension, a cardio-vascular condition not to be distinguished from that of chronic nephritis.

In regard to the diagnosis of uremic coma, while it may, at times, be a matter of indifference as suggested by the essayist whether we decide that the patient has a hemorrhage or uremic coma, the diagnosis does not often present serious difficulty, because in a patient in a state of coma, it is not a very difficult matter to determine that he had Bright's disease, nor to determine or exclude a hemiplegia, because in this case—(Time up; could not complete discussion.)

Dr. Schwarz (closing the dicussion on his part:) With reference to the expectation of life, the cases accumulating show that patients have lived beyond the classical limit. Observations of that kind are common among my colleagues in Chicago.

Dr. Colburn, at a recent meeting of the Ophthalmological Society reported two patients that lived six years. There was no question that they had the typical albuminuric retinitis. Dr. Young reported that one lived six years. Dr. Webster L. Fox recently reported one that lived seven years, and Dr. Dodd reported one that lived three years. I had cited three cases, one that lived five years; one four and the third, three years.

With reference of the prognostic value of any of these signs in the old and the young, I would further emphasize the point I mentioned in my conclusions — the increased value of signs under fifty, and the greatly decreased value of signs over fifty.

Dr. Mix (closing the discussion): As the possibility of ferrocynaid of potassium being a cause of nephritis, I have no knowledge. We know, however, that people working in blacksmith shops often work in metals. We had in Mercy Hospital, Chicago, a brassworker, who had a very characteristic case of parenchymatous nephritis, apparently due to poisoning by brass, a blackened line at the edge of the gums being present. Possibly the blacksmith mentioned by the speaker did not get his nephritis from ferrocyanid of potassium.

As to the statements made by Dr. Wm. J. Butler, I have this to say, that I was merely trying to make the point that of the three diagnostic methods of getting at the existence of nephritis, the symptomatic method is the least valuable; the examination of the urine is next in value, but the most valuable of all is the physical examination of the patient.

Cases of adherent pericardium and of adrenal tumor are not very common, but they do not militate very largely against the value of cardio-vascular signs in arriving at a diagnosis of chronic nephritis.

As far as the differential diagnosis between hemiplegia and coma is concerned, unfortunately in fifty per cent of the cases being females, we are naturally limited by our inability to get the cremasteric reflex. Babinski has pointed out the best differential methods in these cases, which are of either getting the Babinski sign, or of demonstrating hypotonus on the suspected side. When a person is in coma, and the thigh is flexed on the abdomen, the knee can be forced against the shoulder on the paralyzed side. It cannot be done on the sound side.

The same is true of uremia. The Babinski reflex and the hypotonus sign give us a great deal better method of getting at the diagnosis than does the examination of the cremasteric reflex.

BRONCHOSCOPY FOR REMOVAL OF FOREIGN BODIES FROM THE LUNGS.*

BY E. FLETCHER INGALS, M. D., CHICAGO.

The discovery of the principle of bronchoscopy must be credited to Desormeaux, who perfected the urethroscope in 1853. Kussmaul, in 1868, used similar instruments and corresponding methods in the examination of the œsophagus, but for bronchoscopy proper we are indebted to Professor Gustav Killian, of Freiburg, Germany, whose paper, read at the British Medical Association, in 1902, attracted the attention of laryngologists throughout the world.

In an article that I read before the American Laryngological Association, in June, 1904, which was published in the Journal of the American Medical Association, November 19, 1904, I gave a description of the instruments and a concise history of the operation that need not be repeated at this time; but for the benefit of those who did not see that article I will briefly call attention to the instruments and methods employed in this new and very valuable operation for removal of foreign bodies from the lungs. The operation is termed upper bronchoscopy when the instrument is introduced through the mouth and larynx; lower bronchoscopy when the bronschoscope is introduced through an opening made in the trachea. Upper bronchoscopy is much more difficult because of the difficulty in passing the bronchoscope through the glottis and somewhat more difficult because of the greater length of tube to be illuminated, and because of more trouble in turning the bronchoscope into the bronchus from the trachea, but it possesses the advantage of not requiring any wound in the trachea. A larger tube may be used in the trachea than can be passed through the larynx, but with lower bronchoscopy I think there is a temptation to use a bronchoscope of too large a calibre from which the stretching of the bronchi may be detrimental. In some instances I have found it very difficult to pass the bronchoscope through the larynx, and in any case where it was necessary to operate without an excellent light I should consider lower bronchoscopy more likely to be successful. Lower bronchoscopy necessitate a tracheotomy which is an added danger to the patient; indeed in one little patient, about 14 months old, from whose bronchus I removed a kernel of coffee, death occurred a few hours later apparently as the result of the shock, the major part of which was certainly from the tracheotomy, as the bron-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

choscopy was short and easy. I think that there would also be more likelihood of pneumonia following a lower than an upper bronchoscopy.

The surgeon may be greatly aided in this operation when the foreign body is of metallic nature by first locating it with a good radiograph which will often prevent the necessity of examining both lungs and which may enable him to select an instrument of proper length.

I have found it beneficial in some instances to administer a full dose of atropine about an hour before the operation, for the purpose of limiting the amount of secretion in the lungs and, in cases where the patient's toleration of opiates is known, I believe that it would usually be desirable to give a medium sized dose of morphine or codeine at the same time for the purpose of rendering the mucous membrane less sensitive and thus permitting the operation to be done with a smaller amount of the general anæsthetic. From my experience I should say that it is much preferable to do the operation in a well equipped hospital, and a number of assistants are desirable in order to avoid delays; there should be one for the anæsthetic, one to hold the patient's head, one to assist with the lights and with the aspiration of secretions, two to assist with the swabs when the aspirator is not used, and one for emergencies. At least three of these should be physicians; the others might be nurses. The operation should be done if possible in a room that may be darkened if necessary. The patient should be placed upon a high table with the head hanging over the end directly in front of the operator, who is seated on a low stool that will bring his eye on a level with the trachea. Chloroform is the preferable anæsthetic, because it does not excite so much secretion from the respiratory mucous membranes and because with it there is less danger of a subsequent pneumonia than with ether. Again, it can be administered more readily in small quantities during a prolonged operation when the patient may not require to be profoundly anæsthetized. The Brophy or some other inhaler by which the anæsthetic may be administered through a small tube, after the patient has once been brought under its influence, is almost essential to a satisfactory operation. Cocaine or other local anæsthetic may also be advantageously employed for the purpose of rendering the mucous membranes less sensitive, thereby limiting the amount of chloroform. Some of the products of the suprarenal gland will be found beneficial in reducing the congestion of the mucous membranes, preventing bleeding, and acting as a heart stimulant. These may be applied on pledgets of cotton attached to the cotton carriers. The trachea and bronchial tubes may be illuminated by a Kirstein lamp or some similar instrument, or by a small lamp that can be introduced down nearly to the end of the bronchoscope or even beyond it. Kirstein's lamp may be employed either with a battery or with the ordinary lighting current controlled by a rheostat and a 32 candle power lamp. The storage or other batteries used for the Kirstein lamp are liable to give out during the operation and so prevent success and in most cases, especially where a small and long bronchoscope has to be used, the illumination is insufficient. The small lamp[1] that I have formerly spoken of as the No. 1 Chicago Electro-Appliance Company's lamp, but which will hereafter be referred to as the Hardy lamp No. 1 or No. 2, may be used either with a battery or better with the ordin-

[1] The firm that formerly made these lamps having passed into the hands of a receiver, it has been necessary to change the name. They can now be supplied by F. A. Hardy & Co. and other instrument dealers of Chicago under the new name. No. I is a flat lamp such as I have used. No. II is a round lamp that has a better fastening to the carrier.

ary lighting current, and a rheostat controlled by an 8 or 16 candle power (Fig. 1).

Whatever source of illumination is used, the operator should have at least one extra lamp and I have usually been provided with both the Kirstein and the small lamp for fear the light might give out. In two or three cases I should have been obliged to abandon the operation before its completion, excepting for this provision. A good gag is necessary to keep the mouth open and for

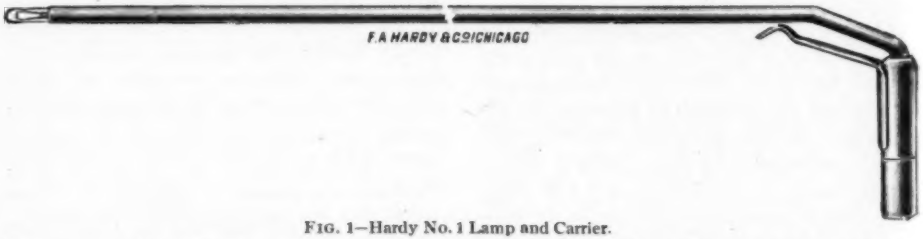

FIG. 1—Hardy No. 1 Lamp and Carrier.

this purpose the Allingham is the best that I have found.

Killian recommends that the bronchoscope be introduced under illumination by Kirstein's lamp. Some operators employ in this operation the Kirstein autoscope, or a speculum for drawing the tongue forward. I have employed both of these at times to advantage but in some instances I have found the introduction very difficult in spite of the speculum and the illumination.

used are, respectively, 13, 23 and 28 c.m. in length. The first of these might be used in lower bronchoscopy or for examining the larynx, and the longest in a child 4 or 5 years of age for exploration of the bronchi. The next sized tubes are 9 m.m. in diameter, the shortest of which is 18 c.m.; the middle one 25 c.m. and the longest 35 c.m. in length. These latter may be used for children over 10 or 12 years of age and for adults. In an adult the longest one would be required to examine the bronchi. They are also used in the œsophagus. Killian's small set also contains an œsophagoscope 11 m.m. in diameter and 19 c.m. in length, Killian also recommends short tubes of varying forms for the larynx and longer tubes for the œsophagus. He also has a tube with a large oval fenestrum on the side to permit of respiration by the unaffected lung when the end of the bronchoscope has been passed into the obstructed bronchus. In my first operation with a bronchoscope

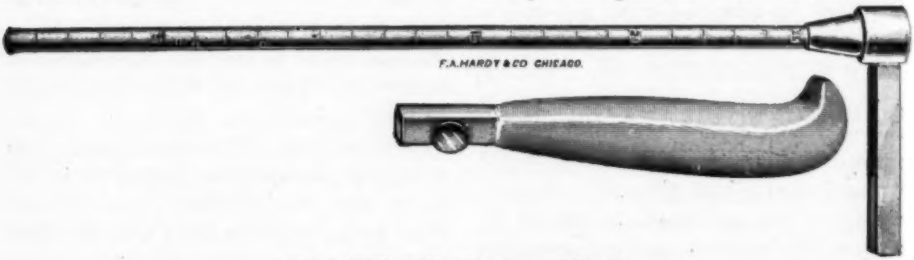

FIG. 2—Killian's Bronchoscope and Handle.

Killian's bronchoscope consists of a tube which can be attached firmly to a large handle whereby it may be readily manipulated. These tubes vary in size and length according to the patient to be operated upon. Killian's smallest tubes, which are for infants and young children, have an inside diameter of 7 m.m. and the three tubes ordinarily

having no perforations on the side, the patient had great difficulty in breathing. I therefore had made a number of small holes 2 m.m. in diameter running spirally around the tube from 5 to 10 c.m. above the distal end of the bronchoscope (Fig. 2). Later I had these made in all of my bronchoscopes and I have found them of great service. The

small size of the openings prevents any protrusion of mucous membrane through them. They do not appreciably weaken the instrument and yet they allow of free respiration. It seems to me that they are much preferable to a single large opening.

Killian's tube forceps for the removal of foreign bodies is an excellent instrument. He has two different styles of handles for this instrument, either of which is good. He also has instruments for securing different kinds of bodies. Among them is a hook with a saw edge and a small hooklet; the latter, however, is dangerous if passed into a small bronchus, as the end of it may catch in one of the branches and cause injury to the lung in removal. In place of this I have made a small probe with about 4 m.m. of the end bent at an obtuse angle from the stem (b. Fig. 3). I have found this useful in searching for foreign bodies, and it has such an angle that it cannot become caught in a small bronchus.

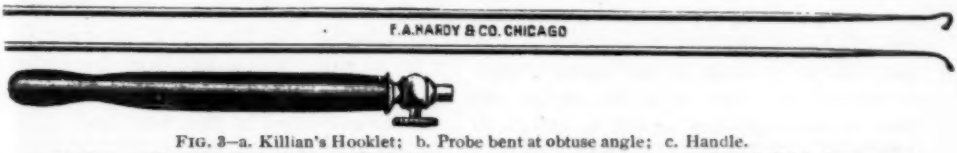

FIG. 3—a. Killian's Hooklet; b. Probe bent at obtuse angle; c. Handle.

An œsophagoscope for examining the lower parts of the œsophagus should be at least 45 c.m. in length. I have designed one of an ovoid section 13 by 15 m.m. in diameter that I think will be useful. I shall also have one made of somewhat smaller dimensions. Killian's small set contains also four cotton carriers (Fig. 4), but if the operator is to rely upon swabbing out the bronchi he will need at least eight or ten, so that the nurse may have them constantly in readiness. The set contains also an aspirating bottle that will hold about three ounces, an aspirating rubber bulb, and two flattened aspirating tubes for pumping out the secretions. This part of the outfit has not worked satisfactorily with me, because of insufficient aspirating power in the rubber bulb.

In one of my early cases of bronchoscopy where the patient had suffered from the effects of a collar button in the lung for over a year, an abscess had formed and a large amount of pus was being expectorated daily. In that instance the operation was greatly prolonged by the difficulty in keeping the bronchoscope swabbed out and the pus was coughed all over me, being kept out of my eyes only by a pane of glass held between my face and the bronchoscope. In that instance I spent nine tenths of the time in swabbing out the tube and then could not have more than a second or two in which to inspect the part before it would again be filled with pus. As a result of this experience I secured a small aspirating pump (the Chevaliers Jackson pneumatic masseur pump) to be run by an electric motor that I switched on by my foot, and I had made a small aspirating tube with an inside diameter of only 2 m.m. which I attached to a rubber tube connecting with an aspirator bottle (A, Fig. 4). This was so small that it did not interfere seriously with the illumination. In subsequent operations I found this of very great value, as it enabled me to remove the secretions without the irritation that would have been caused by a swab and to remove them so rapidly that I could inspect the parts readily, and by passing it up and down the bronchoscope I could readily pump out any secretions that had been coughed up into the tube. This aspirator tube I also use as a probe in searching for foreign bodies.

FIG. 4—a. Aspirating Tube; b. Cotton Carrier: the small end is split and is closed by a sliding ring.

Magnets have been used for extracting iron or steel bodies. For this purpose one end of a wire cable may be made to adhere to a strong magnet and the other end can be passed through the bronchoscope down into the bronchi of small calibre. I have not used this method, but think it would be valuable in some cases.

I have in some instances found great difficulty in introducing the bronchoscope into the larynx, sometimes having passed it several times into the œsophagus before I finally got it into the air passages. The reason for this is that the head has to be bent over far backward to bring it in a position where a straight tube can enter the larynx and trachea, and the base of the tongue is so thick that a good deal of force is required to lift it out of the way. Again, the fauces are apt to be filled with secretions and even when a good illumination is obtained by the Kirstein lamp, the parts are but dimly lighted when a long bronchoscope is being used. During a recent operation I had such great difficulty in getting the tube into the trachea that I hesitated to remove it when I had grasped the foreign body in such a way that I might possibly have secured it by removing both together. In this case the introduction of the bronchoscope into the trachea took about three-quarters of an hour. I attempted to introduce it as I would an intubation tube, having first passed through it a soft catheter which extended 2 or 3 c.m. beyond its end, but I was not successful in this effort, because the position of the head necessary for the introduction of a long straight tube rendered it impossible for me to locate the larynx perfectly with my index finger. I have usually had very little difficulty in introducing the O'Dwyer intubation tubes, and therefore I have decided to have an instrument made which I could introduce in a similar manner that would enable me to get a guide easily into the larynx. I had an obturator made of soft copper, 5.5 m.m. in diameter and 26 c.m. in length exclusive of the handle (B, Fig. 5). I had made also a spiral steel tube to slip over this instrument so that it would extend from the handle to within 5 m.m. of the distal end of the obturator. In using these instruments I passed the spiral steel tube over the obturator and then introduced them as I would an intubation tube. When the end had passed the glottis I slipped off the spiral tube at the same time that I withdrew the obturator. I also had made a hollow steel guide, the end of which was ovoid, and provided several openings to allow easy respiration (A, Fig. 5). This instrument was 45 cm. in length and 5.5 mm. in its external diameter. When the end of the spiral tube has passed into the trachea and the obturator withdrawn, the patient's head is bent far backward and this steel guide is passed through the spiral tube. The spiral tube is then withdrawn and a bronchoscope slipped

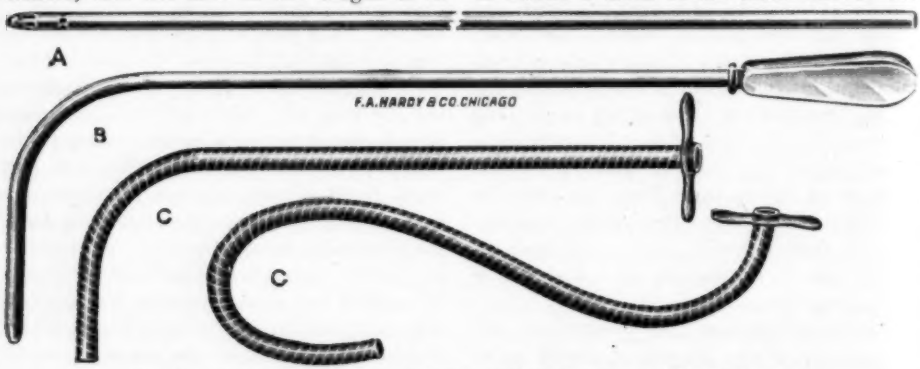

FIG. 5—a. Hollow Steel Guide; b. Obturator and Introducer; c c. Spiral Steel Tube.

down over the guide unerringly into the trachea. In my next operation I used these instruments and had the satisfaction of passing the bronchoscope very promptly and easily; so easily, indeed, that I had no hesitation in withdrawing it three or four times during the course of the operation. After the end of the bronchoscope has passed a couple of inches below the larynx, the operator, watching continuously, should pass it slowly down the trachea until he finds the bifurcation, then bending the patient's head a little to the opposite side, carry it off into the bronchus of the affected lung. In young children even, the bronchi and trachea contract with expiration and expand with inspiration and, in some instances at least, some of the branches completely collapse so that there may be great difficulty in inspecting them and small foreign bodies may be completely hidden. When the end of the instrument has entered the bronchus, diately over the end of the bronchoscope so that only a very small area can be inspected at one time, and it is not possible to make a systematic inspection of the surface of a cavity because of the continuous movements of the lungs.

Owing to the difficulties that I have experienced in bringing pins into view or in getting them into the bronchoscope after I had found them, I had made two small instruments that I have named pin finders, one end of which is something like a blunt cork screw (Fig. 6). These are adapted to bronchi of different sizes. One of these can be passed into a bronchus and carefully turned round and round as it is passed gently downward until, if a foreign body is present, it will be brought into the centre of the spiral, then the bronchoscope can be pushed gently down over the end of it and the pin finder removed. The bronchoscope is then again illuminated and the foreign

FIG. 6—Pin Finders.

the secretions must be removed either by absorbent cotton swabs or by the aspirator pump, and a bright light will be needed for thorough inspection. I have sometimes passed the small lamp 1 or 2 cm. beyond the bronchoscope, though usually I keep it about 1½ cm. within the instrument. If the foreign body is in a collapsed bronchus, or in a bronchus running at a considerable angle from the tube immediately exposed by the bronchoscope, it may be impossible to see it and thus a long inspection and frequent repetitions may be necessary, and there is a large chance for failure. When the foreign body is in a collapsed pulmonary cavity, the large area to be searched and the abundant secretions that are apt to be present will make the operation not only extremely difficult but very tedious. It should be understood that in a collapsed cavity or in a collapsed bronchus the soft tissues fold immebody caught with forceps. In an experiment upon a young dog, I dropped in a pin, head downward, and the whole of it was immediately hidden by collapse of the bronchus into which it fell. After about fifteen minutes' fruitless search, I passed the pin finder in the manner already suggested and quickly succeeded in bringing the end of the pin into the bronchoscope where about 6 mm. of it was exposed after the pin finder had been removed. For removing light objects, such as pieces of feather or thread, I anticipate that the aspirator will sometimes be found sufficient. I have found such difficulty in removing pins, for the reason that when the point is upward, as the pin is caught with forceps, the point is much more likely to catch in the mucous membrane and remain outside of the end of the bronchoscope than it is to be brought into this instrument. Thus it has happened

that in some operations I have caught the pin many times before I have been able to get the point into the bronchscope. In a recent operation upon a boy of 13 years, the pin finder served an excellent purpose in enabling me to bring the pin into the bronchoscope, and I anticipate that it will greatly facilitate operations for bodies of this kind. When the foreign body has been seized by the forceps, it will not infrequently be found too large to be withdrawn through the bronchoscope, when both the instrument and the foreign body should be withdrawn together. In some operations I have hesitated to do this because of the great difficulty in getting the bronchoscope into the trachea.

Most of the twelve bronchoscopies that I have done have been quite prolonged; in several cases the patient having been under the anæsthetic from an hour and a half to two hours. I think it important to keep careful watch of the pulse and the amount of anæsthetic that is used and to discontinue the operation even before the foreign body has been found if the patient's condition is not good. It would be better to repeat it than to keep him too long under the anæsthetic. The after treatment should be much the same as after a tracheotomy, though where upper bronchscopy has been done, if the operation has not been too prolonged and if no injury has been done in removing the foreign body, no treatment whatever will be required.

Up to June, 1904, reports indicated that bronchoscopy had been done in 34 cases with successful removal of foreign bodies 19 times. Killian speaks of the operation as perfectly safe, but I think that two of the patients died within a day or two afterward. There have been several cases that have not been fully reported, and it is more than probable that some of them proved fatal. I apprehend that failure to find the body will frequently occur when it is lodged in an abscess cavity, the inner walls of which are very irregular and likely to be bathed in pus. It is also probable that small bodies will not infrequently become lodged in tubes so small that the bronchoscope cannot be made to enter, and that these tubes being collapsible will completely hide them. Notwithstanding all of the difficulties, this appears to me a most important operation, because the dangers attending it are no greater than those encountered in removing foreign bodies in the ordinary way through the trachea, and because when foreign bodies have passed into the bronchi or their branches, it is often impossible to reach them in the old way, and a transthoracic bronchotomy is almost sure to be fatal. For these reasons I can heartily commend the operation, though I apprehend that, as a rule, no one excepting an expert laryngologist will have the patience and skill requisite for success. To illustrate the operation, I have to record two recent cases that have not heretofore been reported:

Case I.—F. E., male, aged 13 years, was sent to me at the Presbyterian Hospital, January 27th, by Dr. E. S. Detweiler, of La Grange, Ill., with the following history: The day before, while playing with a blow gun, the patient had wrapped a quantity of yarn about an ardinary pin and had attempted to blow it through the tube, but it stuck in the end and upon attempting to take a deep inspiration so as to force it out, he drew the pin into his trachea, from which it passed speedily into the left bronchus. He was a bright lad, well nourished and did not feel very bad from the accident. There was only a little cough when I saw him. Upon examination I found the respiratory movements of the left side quite deficient, but there was no dullness upon percussion; a few bronchial rales could be heard over the left lung, and the vesicular murmur all over the left lung was about one-third as loud as upon the right side. A radiograph taken at the hospital showed the pin clearly upon the left side, apparently in the main bronchus. At 4:30 o'clock in the afternoon, assisted by Dr. McDonald, Dr. Irons and Dr. Friedberg, I gave the patient chloroform and introduced a bronchscope to remove the foreign body. I had a good deal of difficulty in introduc-

ing the bronchoscope, which first went into the œsophagus and unexpectedly a sufficient amount of air was expelled through it to lead me to think it was in the trachea. After several attempts I finally got it into the trachea, but the rings of this tube could not be seen and, as it was passed down to the bifurcation, the left bronchus was so contracted that it was difficult to find. The bronchi of both sides regularly expanded and contracted during inspiration and expiration so that at the completion of expiration the calibre was not more than half what it was during inspiration. In this case the secretions were withdrawn with the electric aspirator pump so that I was not obliged to use the cotton swabs at all; thus I avoided much irritation of the parts, but, owing to the contraction of the bronchus, I was unable to see more than a small part of the yarn that was wrapped about the pin, and I was not able to see the point of the pin at all during the early part of the operation, although I thought that I got a glimpse of it once after I had broken my forceps. Although I could not see the pin, I could readily grasp it firmly with the forceps, and this I did many times, but I could not get the end of it into the bronchoscope, because the moment I made traction upon it the point caught in the bronchial wall. I tried also to catch it with Killian's hooklet (Fig. 3), but traction with that had a similar effect, and I could not get the point into the tube. Finding that I could not see the pin, I attempted to remove the yarn that had been wrapped about it and succeeded in taking away bit by bit quite a large amount, so that I supposed I had removed practically all of it. At this time my forceps broke, and as my extra pair of forceps was being put together it also broke, so that the operation had to be abandoned. During this operation the minute electric lamp and about an inch of metal to which it was fastened became detached from the carrier and fell into the bronchus and I was not able to recover it. I had the patient placed in a private room with directions that the air be kept moist and at a temperature of 80° F. The next morning the boy was reported to be very comfortable, with a pulse of 115; respiration, 28; temperature, 101°. Owing to the difficulty in this and other cases of bringing the pin into the bronchoscope, I devised the pin finder referred to (Fig. 6), which was something after the form of the tool formerly used in extracting wads from muzzle loading guns, though the end was blunt and the second turn from the end was considerably smaller than the one at the end, with the design of forcing the pin to the centre. On January 29th the pulse was 120 in the morning and 108 at midnight; respiration 36 in the morning and 28 at midnight; temperature 102.4° in the morning, 102.6° at noon and 101.4° at midnight. The boy complained of considerable soreness in the front part of the left lateral half of the chest. The respiratory murmur was considerably clearer over the lung than before. Another radiograph was taken which showed the pin with the head downward, apparently in one of the first branches of the main bronchus and the electric lamp near it apparently in a different branch. A couple of days afterward I made several attempts to shake the lamp out of the bronchus by the Padley method, which consists principally of seating the patient on a bench with his knees hooked over the upper end, which is elevated about two feet above the lower end, and having the patient draw a deep breath, at the same time throwing him suddenly backward with the head far below the body and having him cough. I did not succeed in recovering the lamp in this way, but on February 3rd other radiographs were taken and no shadow of the lamp could be seen, therefore it was thought that possibly it had been coughed out and swallowed. At 4.30 p. m. of February 3rd, with the same assistants, I again gave the boy chloroform and applied a small quantity of a ten per cent. solution of cocaine with a 1 to 2,000 solution of adrenalin chloride to the larynx three or four times as he was being brought into the anæsthetic. Later on, the same application was made two or three times to

the bronchus by means of a cotton swab. This time I had even greater difficulty than before in introducing the bronchoscope through the larynx, and it went several times into the œsophagus. To facilitate its introduction, I used as an obturator (or guide) a soft rubber catheter, with a copper wire in it which I passed through, and 2 or 3 cm. beyond the end of the bronchoscope, the wire enabling me to bend the guide to any desired angle. I had hoped by this means to introduce the bronchoscope readily, but I found it was a very different matter to introduce a straight tube into the larynx from what it was to introduce an intubation tube. The principal reason for this was that it was difficult for me to reach the boy's larynx with the index finger of my left hand in the position necessary to introduce the straight bronchoscope. I also tried the modified Kirsten autoscope, and finally with this instrument succeeded in getting the bronchoscope into the larynx. Subsequently I had some delay from passing the bronchoscope accidentally into the right bronchus in consequence of the boy's head having been allowed to move while the tube was being passed down. The marked contraction of the bronchi much of the time caused the end of the bronchoscope to be completely occluded, just as a urethroscope is in passing, so that it was very easy to get into the wrong tube; however, with the bronchoscope in the right main bronchus, I could readily see the openings of several branches of this tube, although I was unable to see any of the branches of the left bronchus because of their collapse. It was a considerable time before I was able to discover the foreign body. The mucous membrane of the left bronchus and its branches were considerably swollen and the tubes were almost collapsed. After the preceding operation I had my electric lamps firmly soldered to the carriers (the one that I lost had been soldered but evidently imperfectly) and I passed one of these several times 2 or 3 cm. beyond the end of the bronchoscope, but still was unable to see the foreign body; finally, however, I discovered the yarn when the bronchoscope had been crowded down 32 cm. beyond the teeth, a distance that at the time seemed greater than necessary in a boy of that size.

I was still unable to see anything of the pin, therefore I introduced the pin finder, and passed it 2 or 3 cm. beyond the end of the bronchoscope. By turning it gently to the right I soon felt that I had engaged the foreign body, but upon gentle traction it seemed that the end of it had caught in the opening of a branching bronchus. I then turned it slightly to the left, by which act it was readily disengaged from the bronchus. I then pushed the bronchoscope down until I thought it had enveloped the upper part of the spiral and then by very gentle traction I soon had the satisfaction of feeling that the foreign body was moving. I drew it out through the bronchscope and found that I had the pin in the middle of a large mass of dark yarn, from which its point projected only about 5 mm. Subsequently, I made a very careful and prolonged search for the lamp, but could find nothing; then with the patient still under the anæsthetic, I depressed his head far below the body and shook him very thoroughly several times, hoping if the lamp was still in the lung that it might be shaken out, but nothing was found. As the patient had already been under the operation for two hours and under the operation for a little over one hour, I thought best to desist. At this time the pulse was only 108 and the patient was in very good condition. The next morning the patient was reported to me to be in fine condition, and the pulse, temperature and respiration appear from the records to have been normal. Two or three radiographs were taken afterward, but no shadow could be found of any foreign body. Unfortunately, I had omitted to have the stools carefully watched, but, as all the symptoms of a foreign body disappeared and the boy soon became perfectly well, we concluded that the lamp must have been shaken into the throat either at the first time I tried the Padley method or at the close of the bronchoscopy, and that it had been swal-

lowed. Six weeks afterward the father reported to me that the boy was perfectly well, having had no symptoms of trouble after leaving the hospital two or three days after the final operation.

I examined the patient carefully on April 29th and found no symptoms or signs of any trouble with the lungs, and subsequently Dr. Howard, of the Presbyterian Hospital, had two radiographs taken, neither of which showed any foreign body, so I feel morally certain that the lamp was shaken out as already suggested.

Case II.—S. M., a girl, 5 years of age, was brought to me at the Presbyterian Hospital by Dr. I. J. K. Golden, April 13th, with a history of having inhaled a piece of metal from a suspender fastening, two months previously, since which time there had been persistent cough, and recently a large amount of purulent expectoration. For three days the child had been unable to lie down and had suffered a great deal of pain in the right side near the sternum. The patient was very weak and pale, and there was some œdema of the extremities. Upon admission the pulse was rapid and full, the voice husky and respiration labored. The temperature ran from normal in the morning up to above 100° in the afternoon.

Upon examination of the chest, palpation showed increased fremitus over the right side, and, upon percussion, dullness over the entire right lung. Upon auscultation on that side the vesicular murmur had disappeared and in its place was bronchial and bronchovesicular breathing with numerous large and small moist râles. The left side was normal; the heart was in a normal position and the sounds were natural; the abdominal organs were normal; urine negative; blood 3,200,000 reds, 28,000 whites, 65 per cent. hæmoglobin. A radiograph taken at the hospital showed a piece of metal which subsequently proved to measure 2.5 cm. long by 6 mm. in width located in one of the branches of the right bronchus behind the anterior end of the fifth rib. During the forenoon of the day upon which the child was admitted it appeared so ill that an operation seemed extremely hazardous, but we finally determined that an immediate operation afforded the best chance of recovery, although I very much feared a fatal issue. At 4.30 p. m., aided by Dr. Waugh, Dr. Irons and Dr. Howard, I gave the child chloroform and introduced a bronchoscope 7 mm. in diameter. There was a great deal of purulent expectoration which interfered with inspection of the parts, and complete collapse of the bronchi on the right side added greatly to the difficulties. I searched a long time with an instrument, 23 cm. in length, but failed to find the foreign body, not realizing that it was beyond the reach of the tube. I then introduced an instrument of the same kind, 28 cm. long, and soon discovered the metal. I grasped this with the Killian tube forceps, but it was too large to be withdrawn through the tube, therefore the bronchscope and the foreign body were withdrawn together. The foreign body proved to be a brass fixture of a suspender, of the width and length already stated, varying in thickness from 1 to 3 mm., and containing at its lower part some of the cotton webbing of the suspender. The operation was greatly facilitated by the introducer already described and by the aspirator pump and tube which were used in clearing the air passages of pus. Although the child was kept under chloroform for about one and a half hours, during most of the time the anæsthetic was not at all profound. The principal cause for the prolonged search was that I failed to realize the distance from the teeth to the branch of the bronchus, and it was only when we had again examined the radiograph and found that the foreign body was under the fifth rib, and then measured from the teeth to the fifth rib that I realized that a bronchoscope 28 cm. in length was needed.

About an hour after the operation, the pulse was 120, respiration 40 and temperature 100°. The next morning the conditions were practically normal, but by evening the respiration was 40, pulse 140 and temperature 99.8°. An examination of the chest

showed absolute consolidation of the right lung, but already the expectoration was less and the child had been able to lie down during the night. In general, the child steadly and comparatively rapidly improved, but the pulse, respiration and temperature rose until at the worst, about two days after the operation, the pulse was 140; respiration, 60; temperature, 103°; subsequently the temperature fell nearly to normal in the morning, but rose in the afternoon to 102° the first day, 101° the second and 100° the third day. The child remained in the hospital six days, and at noon the day it was removed, the pulse was 120; respiration, 40; temperature, 100°. The lung was still consolidated, but there was practically no cough or expectoration. The child was doing well and resting well. The friends insisted upon removing her from the hospital, although the lung was still consolidated.

34 Washington Street.

Discussion.

Dr. Jacob Frank, Chicago: Mr. President—I would like to ask Dr. Ingals if the troublesome secretions he speaks about came from the mucous membrane of the bronchi, or whether he thinks they came from the mouth and ran down along the tube? I think the trouble is probably due to the secretions that run from the mouth alongside of the tube into the trachea. If this is the cause, I would suggest that the fauces be packed with gauze or cotton, and in that way the trachea can be kept perfectly dry. I have done this in operations of the mouth, giving the anesthetic, and passing tubes through the nostrils to the epiglottis, and packing off the entire fauces. in this way keeping the tract perfectly dry and kept the secretions from running down into the trachea.

Dr. E. Fletcher Ingals, Chicago (closing the discusion): While the secretions from the mouth are annoying until after the bronchoscope is introduced, I do not think that they interfere with inspection. Usually the bronchoscope fills the glottis so tightly that I hardly think the secretions would run down into the trachea, but this is almost surely prevented by the position of the patient on the back with hanging head.

Diagnosing His Case.

"I can't seem to keep my head above water,"

"The trouble with you is you're always too busy keeping your nose above whisky."—Houston Post.

Chicago Items.

The engagement of Dr. Alfred Bein and Miss Annette Grossman of 1309 Milwaukee avenue, Chicago, is announced.

Dr. Hubert Shatece, of 421 Cleveland avenue, Chicago, was recently elected President of the Catholic Military Federation of America.

Dr. J. B. Miller and wife of 2690 West Chicago Avenue, Chicago, visited relatives in Sangamon County the early part of October.

Mr. and Mrs. Louis Benjamin of 4111 Grand Boulevard, Chicago, announce the engagement of their daughter Blanche to Dr. Moses Eisenstadt.

Dr. D. W. Craig of 93 Sigel Street, Chicago, has removed to Sioux City, South Dakota.

Dr. H. O. Bates, a former resident of Chicago for twenty years, has located in Long Beach, California. He, with other Long Beach physicians, is erecting a $40,000 hospital with all modern equipments in a beautiful location on the ocean beach.

Parents in South Chicago were recently accused of insuring their children instead of providing precautions against the disease. Health Commissioner E. R. Whalen sent three inspectors, Drs. H. M. Richter, Rosa Engelman and L. H. Mettler, to investigate this matter.

In connection with the construction of its proposed new hospital, the Chicago Policlinic has given a trust deed to the Northern Trust Company, to secure a bond issue of $300,000. The bonds are of the denomination of $500, mature July 1, 1935, and bear 4 per cent. interest. The property at the southeast corner of Oak and LaSalle streets, 150x120 feet, and 50x130 feet in Chicago avenue, 112 feet east of Franklin street, is given as security.

Dr. W. E. Quine of Chicago, at the meeting of the Federation of Women's Club of Illinois recently held at Joliet, spoke on the preventability and curability of pulmonary tuberculosis and the duty of the State towards consumptives. So vivid was his description that a mild panic was created in the audience. It was described by a newspaper correspondent as follows: "As the story of the stricken and dying was told the club women began to leave their seats in the convention hall and seek the fresh air. One delegate fainted and was carried out. A cry to have the windows opened was raised. Dr. Quine told his audience that the germs might be lurking under the seats on which they sat and thriving on the dust at their feet. A mouse could not have caused greater uneasiness. Skirts were picked up from the floor and a demand for fresh air again was made. The windows were thrown open. Dr. Quine concluded his address by calling upon a Rockefeller, a Carnegie, a Pearsons, a Phoebe Hearst or a Helen Gould to come forward and build hospitals and colonies for consumptives."

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

NOVEMBER, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 17, 18, 19, 1906.

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Committee on Public Policy and Legislation.

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The Pres. and Sec'y. Ex-Officio.

Committee on Scientific Work.

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HEALTH AND PLEASURE RESORTS OF THE WEST—COLORADO SPRINGS.

A second visit was made to Colorado Springs during the past season—the first having been made some thirteen years before. A remarkable change was found in the attitude of the inhabitants towards the tourists.

Formerly outrageous prices were charged and scant courtesy given. Now we find the prices reasonable and every one anxious to please. It seems that for a number of years the visitor was only considered for the money that could be extracted from his purse until finally the resort found itself being deserted. For several years, notably 1904, the visitors were few in number. We hope the lesson has been well learned for we believe that no resort in America offers greater attractions. It will be necessary to brighten up many of the hotels in Manitou for they are quite shabby in appearance. The cities should also regulate the price of carriages and protect the invalid and tourist from overcharges in every way. One of the instances of extortion is the charge of one-half dollar to visit the South Cheyenne Canyon. This beautiful valley is worthy a visit and it is nicely kept but twenty-five cents would certainly pay all expenses and leave a handsome profit.

For many years Colorado Springs was the Mecca of consumptives, "lungers," as they are called. Many pitiful cases are yet to be seen in the streets but not nearly so many as in the 90's. Home physicians are probably learning to keep the bad cases among relatives and only send those in the early stages of the disease.

Several hundred consumptives reach this resort each month. We were told by our old friend, Dr. R. W. Reasoner formerly of Morrisonville, Ill., that the hack drivers are able to tell a consumptive on his arrival because his clothes are always too large for him. One of the hotel proprietors wisely says when a "lunger" crosses his legs and *both feet touch the ground,* get him home as quick as you can for he will not last long.

Quacks are numerous in Colorado Springs and by means of inhalers, vaporizers, electric appliances, etc., bleed the victim until his money is gone and then they hurry him home with the opinion that the altitude is too high for his case.

A number of hospitals and camps for consumptives are maintained around Colorado Springs and the disease in these institutions is treated along modern scientific lines with good results in cases adapted to the altitude. Dr. Watterson after a years experience in Colorado, gives some valuable advice in another column of our Journal this month. It is well worth reading. It is certainly true that great discretion should be exercised in sending consumptives to Colorado, away from home ties but for certain cases it undoubtedly offers ideal conditions.

PROGRESS OF OTTAWA SANITORIUM.

The crusade against tuberculosis in this State which was launched at the Bloomington meeting in 1904, has been remarkably successful. In no state of the Union has so much interest been aroused and practical work done, and all as a result of the very comprehensive plans and intelligent direction of medical men. The work in most of the states has been of a very desultory character. In our State it has been systematic and well directed. The medical profession are very properly leading this crusade and have set in operation the many forces which have very quickly placed Illinois in the front in this beneficent cause. No one agency has contributed more largely to the success of the movement than the Ottawa Tent Colony. The committee in charge have demonstrated beyond doubt that tuberculosis can be cured in this State quite as effectively as elsewhere.

It was hoped and expected that the Ottawa Tent Colony would be the nucleus of a charitable institution. The action of the legislature last winter has made this impossible and thus far men of means have failed to come forward with the necessary funds for its support on a charitable basis. This has made it necessary to conduct it for the present at least as a private enterprise. In order to meet the demands of the situation three classes of institutions are necessary; the strictly charitable, the semi-charitable, and the private sanatoria. Inasmuch as the chief value of these sanatoria is educational it is perhaps more fortunate than otherwise that the Ottawa Tent Colony must be conducted for a time at least as a private enterprise, for the reason that it leaves its direction absolutely in the hands of medical men who are familiar with the situation and have made a special study of climatic and other conditions which place them in a position to give more intelligent direction to the development of these institu-

tions than could possibly be done by a board of directors or trustees. Their work has attracted more than usual attention throughout the country. Not alone because it has been demonstrated that tuberculosis can be cured in this climate, but they have evolved cheaper and more scientific methods for carrying out the modern treatment of pulmonary tuberculosis than has been done elsewhere. Already their methods have been accepted as standard as is attested by the fact that in a letter from the Secretary of the American Tuberculosis Exhibition which is to be held in New York City, December first, the Secretary says, "The committee is particularly anxious to have the Ottawa Tent Colony well represented in the exhibition for as you know it is being watched with great interest at present and cited very widely as an example of what can be done with a small expenditure of money. I express the sentiment of the committee in saying that we shall be very glad to provide space for practically anything you may care to send." There has been a too slavish adherence to the usual methods of hospital construction in the building of sanatoria for tuberculosis. This is not only unscientific but enormously expensive. Since the final analysis of the whole question is one of dollars and cents, cheaper methods must be evolved, or the whole system will be broken down as a result of the enormous expense attending its application. This unfortunate condition of affairs grows out of the fact that the construction of these sanatoria has been taken out of the hands of medical men entirely, and turned over to rich philanthropists, boards of directors, trustees, sentimentalists, etc., who have little or no conception of the scientific principles involved, or the most economical and efficient methods for carrying them out. In view of these conditions it is fortunate that the managers of the Ottawa Tent Colony, who are experienced medical men, will be untrammeled in their efforts to cheapen and simplify methods of treatment. This is the kind of work most needed at this particular time.

Drs. Pettit and Butterfield of Ottawa have financed the institution and are making improvements which involve the expense of from thirty to thirty-five thousand dollars. These include an administration building, water works, first class bath house, infirmary, better equipped tents, beautifying of grounds, etc. The tedium of the treatment will be relieved by providing music, entertainments, lectures, launches, suitable amusements, reading matter, etc. When these improvements are completed which will be within a few weeks, the institution will provide first class accommodations at a very reasonable expense. The institution will be dedicated by proper exercises to which the medical profession, charitable workers and others interested will be very generally invited. Those who have the opportunity should make it their duty to respond to the invitation as in no other way can they so thoroughly familiarize themselves with the character of the work being done than by a visit. No amount of reading or explanation will be so valuable as a days visit.

While the institution must be supported by contributions from patients its statistical and educational value will be none the less to the profession and public. Indeed these will probably be of more value. We bespeak for the Ottawa Tent Colony the same generous support and cordial co-operation which it has hitherto received, and which as the pioneer institution, it so richly deserves.

ILLIOPOLIS HOSPITAL A HOAX.

Illiopolis, Sangamon County Illinois, a beautiful village of about 1000 inhabitants was recently visited by a Dr. Louis DeClermont, (name not found in Polk's last directory) who gravely announced that he had been sent by the United States Government to secure ground on which to build a $400,000 hospital for the army and navy. It was to be used for the treatment of stomach and bowel troubles and to accomodate 3,000 patients.

Notwithstanding the transparent unlikelihood of this story many citizens believed it and the prospective hospital was widely advertised in the lay and medical press. It was soon learned that the promoter "takes something and sees things." It is said he has disappeared.

THE SENN BANQUET.

All arrangements for the testimony of the banquet to be tendered Dr. Nicholas Senn, by the Medical Profession at the Auditorium Hotel, Chicago, Saturday evening, November 11 at 6:30 o'clock, have been completed. The reception will last from 6:30 to 7:30, at which hour the banquet will be served. A great many local societies have officially appointed delegates to represent them at this function, but all members of the profession are invited to be present.

Among the speakers will be Dr. W. J. Mayo, President-elect of the American Medical Association; Dr. John A. Witherspoon, Nashville, Tenn.; Dr. Jacob Lang, Milwaukee, Wis., and Mr. George R. Peck, Chicago.

A medal will be presented to Dr. Senn and a replica of the same to each guest. The tickets will be $5 each, and may be secured from Dr. D. J. Dougherty, 100 State Streeet, Chicago.

THE ARMY MEDICAL SERVICE.

Whether we wish it to be so or not it is undoubtedly true that the status of the medical profession of any country is accurately reflected in medical services of its army and navy. Let a short sighted and niggardly policy prevail in the treatment of the surgeons in the services and very soon an inferior grade of men apply for appointment and the character of the whole medical corps is lowered. There is imminent danger to the medical corps of the U. S. army right now. Resignations are numerous, good material does not apply, the opportunities for promotion are few. Congress turns a deaf ear to appeals for relief and dissatisfaction among the members of the corps is prevalent. Last December we considered this subject quite fully and gave reasons why every member of the profession should take an interest in it and use every effort to bring about the needed relief. We urgently repeat our appeal at this time and we especially call on our members residing in Congressman Prince's and Cannon's district to communicate with these gentlemen and urge them to give this matter favorable consideration at the next session of congress. By reason of their high standing in congress they can do much to help the cause along if they will so to do. It will be largely our fault if some future war reveals such disgraceful sanitary conditions as prevailed at Chickamauga, Jacksonville and Camp Alger.

WHY THE NOSTRUMS FLOURISH.

Lay publications of late courageously have shown that the most wide-spread and most deadly branch of the nostrum traffic depends wholly for its prosperity upon its "criminal alliance" with the newspapers that publish the deceitful advertisements luring the innocent to ruin and that pocket their share of

the proceeds. The investigation of this secret and disguised traffic in alcohol has demonstrated that, with few exceptions, the newspapers which usually are so active in exposing "graft" by which others profit, are willing, silent, money-loving partners in the most hideous form of modern fraud. For what indeed can be worse than taking a money profit from misleading and deluding by false hopes of relief those who are ill and suffering, and finally leaving them ensnared in the soul-destroying meshes of narcotism.

The public is now learning the truth regarding the composition of these nostrums, and the federal revenue authorities are about to impose on them the liquor tax, which will lead the way for the state to do the same. It is to be hoped that the venal portion of the press will be compelled by enlightened public sentiment to withdraw from its profitable alliance. Sure it is that hypocrisy will no longer serve to hide the issue, and that raising other questions to becloud this one will not now serve any purpose. Once for all the newspapers, each and every one, must make its choice in the full assurance that the public is watching and is fully apprised of the true state of affairs. The newspapers constitute a great force for good or for evil, and this force is usually exerted on the right side. Proprietors however are after money with an avidity at least equal to that in any other vocation, and self-interest has made many of them blind to the evil part they have played in promoting clandestine intemperance. We hope, now that the issue is clearly laid, that the majority will promptly avail themselves of the opportunity gracefully to step into the correct position.

Correspondence.

FEES ARE PROMPTLY PAID IN WILL COUNTY.

Dear Sir: Under correspondence in the last issue of the Journal, I noticed complaint of Chicago practitioners that birth fees were not to be had. I wish to state that at Joliet where I have been located 4 years, I have always been paid for birth certificates on presentation of claim to the county treasurer without controversy.

Fraternally,

Louise T. Munch,
Joliet, Ill.

ANOTHER QUESTION ON ADVERTISING.

To the Editor: May I ask if advertising a new invention of merit puts a doctor under a ban? To explain, I have installed, at a cost of $650.00 a machine that generates and fans oxygen through hydro-carbon oils. Have advertised in a respectful, conservative way the diseases it cures.

Now comes a typical old time advertiser with the well known flamboyant promises. To my surprise some, if not all of my associates put us both in the same class and tell me, as plainly as they can one belonging to the societies, that he "is deserving of the more respect because he comes out openly so that everybody may know that he is after the money." It seems to me that oxygen is not rightly appreciated or physicians of standing would not so express themselves. At any rate it is queer logic. May I ask the grand old profession at large if there is not a difference? Is there no means of convincing medical men that a doctor can advertise a thing of established merit in an honest straight forward way without professionally falling from grace? If not, it is enough to make an out-and-out advertiser (call him quack or whatever you please) of any man who advertises honestly and has informed himself so that he knows whereof he speaks.

As a medical friend of mine wrote me in answer to some questions along this line, "it all lays with a man's own conscience." But the conscience must be educated or they would still be throwing infants into the Ganges river. I believe that a properly educated conscience is a good guide, I have tried to so educate mine, and it is guide enough for me.

I feel hurt and wrongly regarded for "I have been a sister good and true" for fifteen years and still desire to maintain my pleasant relations with men whom I esteem very highly.

If anybody cares to discuss the subject and the Journal is willing I, for one, would like to hear from them pro or con.

Respectfully,

E. J. Carroll, M. D.

Pontiac, Ill.

THE AUTOMOBILE—ELECTRIC.

Dear Dr. Kreider: In response to your request for experience in use of automobile in practice, I may say that I have been using a Pope-Waverly electric runabout for the past five months, beginning May 1st.

The original cost of this years model of a machine like mine is eight hundred and fifty dollars, with fifty added for a top, if desired.

On a full charge it is supposed to run forty miles, but I have only once made that mileage under one charge. I usually run twenty to thirty miles before recharging, and do this two or three times a week, leaving the machine on charge three or four hours at a time, and during office hours, when I do not need it.

At the metre rate in Decatur, my highest monthly bill for power was seven dollars and twelve cents ($7.12), with an average of six and a half. I pay three dollars a month for privilege of a stall in the garage, or auto-station, which is near my office.

I have had to buy one new tire casing, at a cost of eighteen dollars, and pay for repair of several punctures, and a little oiling and cleaning, but have broken nothing and had no accidents of any kind beside the aforesaid punctures. My entire expense for the five months including odometer, oil can and oil, jack, and battery fluid, was seventy-nine dollars and thirty-six cents, or fifteen dollars and eighty-seven cents a month; which is less than it costs me to keep a horse.

Now as to advantages. I do all my town work, night and day, with the machine, except on stormy days, when I sometimes drive a horse, though I am obliged to keep on the paved streets when there's much mud. I do not use my auto for country trips of more than three or four miles.

One who has depended on horse transportation can hardly imagine the convenience of a machine, always hitched up, that will stand all night without complaint, and is always ready to go the moment you get in and push the lever. While not speedy, it goes easily ten or twelve miles an hour, and with freedom from delays, it saves half the time lost in driving. It is easy to manage but demands thoughtful care, which any man careful enough to be trusted to prescribe for the sick or do any surgery, ought to be able to give, and avoid accidents.

The enthusiasts, with their gasoline touring cars, think the electrics are "too slow," and it is true that *they* can go faster and farther than we do, *when they go at all*, but I hear of so many cases of "stranding," that I prefer a machine which will go and come to the limit of its capacity, without the aid of a machinist.

The economical man might not be able to figure out an auto as a profitable investment for a doctor, but after you have owned one it is like matrimony which makes a man wonder how he could have been content to remain single so long.

Yours sincerely,

Herbert C. Jones.

Decatur, Ill., Oct. 12, 1905.

HOW THE DOCTOR CAN PREVENT DISCRIMINATION.

Illinois State Medical Journal:

Dear Sir—I have just read the letter of complaint in your Journal, written by Dr. F. R. Frazier, in which he tells how physicians are discriminated against by the law, and flim-flammed by the employer. I went up against that game a long time ago, and it opened my eyes, so that I was not long in finding a remedy that controlled the situation.

When called to see such a case, just write a prescription like this, and ask the employer to sign it:

Dr. John Smith— I want you to see after the illness of my man Thomas Brown, and I will be responsible for the necessary expenses.

Jos. Jones, Employer.

This will fix the matter. Of course, where the employer is an honorable man of standing you need not ask for a written order, but just take his word for it. If he declines to stand good for it there is only one other way in which you can make yourself safe from loss, and that is to tell the employer to go to the overseer of the poor and get an order authorizing the attendance. It is a fact, that these very employers realize that the physician is under no more real obligation to see after the illness of servants than is the employer himself and not as much. You will be surprised to see how promptly they will rally to your support, when your diffidence is in abeyance, and your backbone is in evidence.

Respectfully, W. W. Crane.

Sinclair, Ill., Oct. 11, 1905.

News Items.

Dr. A. L. Golightly has removed from Carbondale to Dewmain.

Dr. Walter Miles, of Viola, has been visiting relatives at Virginia.

Dr. and Mrs. Irving Newcomer of Petersburg visited in Bloomington.

Dr. F. A. Neville of Meredosia visited his parents in Galion, Ohio, recently.

Dr. and Mrs. Chas. W. Hall, Kewanee, have returned from a visit to Colorado.

Dr. Josiah T. Kretsinger, Leaf River, has returned from a trip to the Pacific Coast.

Dr. Peter J. Reynolds, Dwight, was thrown from his buggy Sept. 28, breaking his leg.

Dr. C. S. Nelson of Springfield has been looking after business interests in Texas.

Dr. Albert C. Johnston, Sidell, is seriously ill at the home of his parents near Horace.

Dr. Alpheus A. Bondurant, Cairo, who has been seriously ill, is reported to be convalescent.

Dr. J. H. Huber, of Pana, was recently called to Pierson, Indiana, by the death of his brother.

Dr. George F. Stericker of Springfield has been looking after business interests in Kansas.

The physicians of Evanston have raised the fee for a visit in that city from two to three dollars.

Dr. James Simpson has returned from Los Gatos, California, where he moved from Taylorville a year ago.

Dr. Jos. Sheirich, Philo, was taken to the Burnham Hospital, Champaign, Oct. 3, suffering from a bullet wound.

Dr. Henry Davis of Atwater has located in Carlinville. Dr. Davis has recently returned from studying in Germany.

"Cross-eye" Dr. leaves suddenly—"Dr" C. A. Lanfbert, who has advertised wonderful cures for cross-eyes, etc., in Coal City is said to have left Morris suddenly, leaving unpaid accounts behind him.

The "Beverly Farm" Home and School for Nervous and Backward Children has recently increased its capacity by the addition of eight rooms, which, with the new gymnasium recently opened, facilitates the care of about fifty children. Dr. Smith is to be congratulated on the rapid growth and wide usefulness of his school, located near Godfrey.

Dr. H. C. Fairbrother of St. Louis suffered a serious injury the last day of August by falling into an excavation made by the telephone company in the streets of that city. He has partially recovered and is attending to a portion of his work.

Fifty-two students received degrees at the eleventh annual commencement exercises of the Illinois Medical College, held in Handel Hall. The exercises were conducted by the Rev. Jenkin Lloyd Jones. Prof. W. C. Stanford, Secretary of the College, made the annual report for the two branches of the school, those of medicine and pharmacy, outlining plans for the coming year. Announcement of the graduating class then was made by the dean, Prof. B. Brindley Eads, after which the degrees were conferred by Prof. Heman H. Brown, President of the College. Attorney Thomas Cratty made the doctorate address, and Dr. Joseph C. Clawson delivered the valedictory address.

Doctor Held for Murder.

Canton, Ill., Oct. 10.—Dr. Robert Emery, an aged physician of Peoria, has been held in $2,500 to await the action of the grand jury on the charge of murdering the new born baby of Miss Pearl Weaver of Farmington at the home of her sister in this city. The defense placed no witnesses on the stand at the preliminary hearing.

Hospital at Taylorville.

The contract for building the proposed Catholic Hospital was let recently to Theodore Brenkhater, of Decatur, on a bid of $18,058. There were two other biders, a Lincoln firm and a Taylorville firm. Work on the hospital will be commenced at once, and it is to be completed by February 1. The Sisters of the Most Precious Blood will have charge of the hospital when it is completed, they having contributed $5,000 toward its erection. The rest of the money was raised in Christian County.

Marriages and Deaths.

MARRIAGES.

Albert Arendt, M. D. to Mrs. Frank A. Landman, both of Bloomington, October 22. Dr. Arendt was on his death bed when the marriage ceremony was performed to Mrs. Landman from whom he had been divorced 20 years before. He died soon after the ceremony.

Cassius N. Clay Buchanan, M. D., Easton, Ill. to Miss Marguerite M. Saffer of Mason City, Ill., August 31.

Dr. Thos. Reid Crowder of Chicago and Dr. Edith Cadwallader of Philadelphia were married at Titusville, Pa., October 26. The bride is a daughter of the late J. A. Cadwallader, one of the most prominent oil operators of Pennsylvania. She was graduated from the Woman's Medical College in Philadelphia in 1900, where she spent two years in practice, The following year she studied in Europe, and later was appointed to a chair in obstetrics in the Woman's Medical College of Pennsylvania and became medical director of the hospital. Dr. Crowder is chief of sanitation for the Pullman company. The couple will reside in Chicago.

Mortimer Frank, M. D., to Miss Donie Katz, both of Chicago, Oct. 4.

Louis H. Friedrich, M. D., Chicago to Miss Rose Rudolph of Milwaukee, October 5.

Richard M. Genius, M. D., to Miss Elizabeth Morse, both of Chicago, Oct. 12.

Perry B. Goodwin, M. D., Summum, Ill., to Miss Mabel B. London of Bristol, Conn., at Astoria, Ill., October 3.

J. Newton Hathaway, M. D., Chicago to Miss Nathalie L. Yonkers, at Grand Rapids, Mich., September 30.

Isaac Moore, M. D., Alton, Ill., to Miss Elizabeth Foree of Melville, Ill., at Quincy, Ill., October 4.

Charles Parker, M. D., Sterling, Ill., to Miss Stella Geofroy of Rock Falls, Ill., October 5.

Harold Hargreave Roberts, M. D., Maywood, Ill., to Miss Leila Lines of Chicago, October 14.

Harry Burton Roberts, M. D., Highland Park, Ill., to Miss Caroline Gertrude Brown of La Grange, Ind., October 17.

Wm. R. Smith, M. D., Grand Ridge, Ill., to Miss Katherine R. Burgett of Keithsburg, Ill., October 3.

John A. Vincent, M. D., Springfield to Miss Selina O. Boissoneau of Morgan Park at St. Joseph, Mo., October 19.

Todd Pope Ward, M. D., Mt. Vernon, Ill., to Miss Virginia Griffith Watkins of Owensboro, Ky., September 26.

DEATHS.

Albert Arendt, M. D., Bloomington, October 22, aged 63.

Franz Bacher, M. D., Heidelberg, Germany, died at his home in Quincy, Ill., October 15, from senile debility, aged 77.

James Bourdman, M. D., Bradford, for many years Coroner of Stark County, aged 61. He was a veteran of the Civil War.

Geo. Gregory Carroll, M. D., died at his home in Rochester, Sept. 25, from cerebral hemorrhage, after a short illness, aged 62.

Frederick Cole, formerly of El Paso, Ill., died recently at his home in Garden City, Kan., aged 76.

Joseph Huyett, M. D., died at his home in Milan, Oct. 6, aged 85. He was surgeon in the Ninety-third Illinois Regiment during the civil war.

Ulysses G. Hipp, M. D., died at his home in Chicago, October 24, from the effects of an overdose of chloral, taken it is supposed with suicidal intent, aged 33.

James C. McCallister, M. D., died at his home in Genoa, Ill., September 25, and was buried September 27, aged 90.

Louis A. Malone, M. D., formerly of Jacksonville, Ill., died at the Indianapolis City Hospital, October 14, from cerebral hemorrhage, after an illness of two weeks, aged 47.

Albert Powell, M. D., died at his home in Marion, September 21, from tuberculosis, after an illness of three years, aged 36.

Chas. I. Roseberry, M. D., died at his home in Easton from injuries sustained by a fall several months before, aged 74.

Jos. Maurice Sheahan, M. D., died at his home in Quincy, September 21, after an illness of a year, aged 52.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.

OFFICERS:

C. S. BACON, 426 Center Street ..... President
FRANK X. WALLS, 4307 Ellis Avenue ..... Secretary
A. E. HALSTEAD, 2937 Indiana Avenue ..... Treasurer
W. A. EVANS, 103 State Street ..... Chairman Medicolegal Committee
WM. HARSHA, 103 State Street ..... Chairman Membership Committee

NOVEMBER, 1905.

A regular meeting was held October 4, 1905, with the President, Dr. C. S. Bacon, in the chair.

Dr. Max Reichmann reported a case of tumor of the brain diagnosed by the skiagraph and Roentgenogram. He demonstrated pictures and exhibited the patient.

The case was discussed by Drs. Sanger, Brown, Donelson, Grinker, Mettler and the discussion closed by the author.

Dr. David Lieberthal exhibited a case of urticaria pigmentosa.

Dr. Harold N. Moyer showed a case of incipient acromegaly, which was discussed by Drs. Gradle, Patrick, Grinker, Ladova and the discussion closed by Dr. Moyer.

Dr. Hugh T. Patrick reported a case of tabes in a negress, and exhibited the patient. He also showed a case of palsy.

These cases were discussed by Dr. Moyer.

A Rare Specimen of a Roentgenogram of a Brain Tumor.

By Dr. Max Reichmann of the Chicago Roentgen Laboratory.

Through the courtesy of Dr. John E. Holberg I am able to present to you tonight this four-year-old boy of Italian descent, who was brought to my laboratory August 7, 1905, for the purpose of determining the nature of a tumor which you see upon the vertex of his skull.

Before I demonstrate the Roentgenogram I will, with the permission of the attending physician, give you a brief history of the case.

As far back as the family history is concerned, the parents and grandparents, as well as one brother, are living and apparently in good health. A specific history is denied, although by close questioning we have ascertained that the father of the little patient was suffering a few years ago from a sore throat of long standing and also soreness of the mouth. The mother had no miscarriage, but one child was still-born. The patient did not suffer from any disease to mention. His appetite and bowels were always normal.

The tumor was first noticed when the patient was five months old and grew, since then, to its present size. The patient had since September, 1903, frequent spasms in which he lost consciousness. His body became rigid and his face cyanotic. Those spasms would continue for a few moments and except for a little drowsiness the patient would appear well again.

The exophthalmus appeared first in December, 1903, and seems to be increasing. The first Roentgenogram I will show you was taken August 7, 1905, while the patient was under the influence of chloroform. The tube used was a medium (Walter Scala 5), distance from tube to plate about 50 cm. and time of exposure five minutes.

After having developed the plate, I was very much surprised to find a very thin skull, the convolutions of the brain beautifully marked, and at the side of the tumor was a mass indicating soft tissue.

A number of gentlemen to whom I have shown the plate have expressed their opinion of the tumor as being specific, and we put the patient on increasing doses of potassium iodide. Since five weeks the patient did not have any spasms. The second Roentgenograms was taken on September 29, 1905, under the same conditions as the first one, and shows exactly the same conditions as the first.

In conclusion, I would say that I had investigated all available literature about Roentenograms of the skull and I have failed to find one single instance in which there was such a beautiful view of the brain.

Discussion.

Dr. Julius Grinker: I want to say a word or two in regard to the value of the X-ray

in diagnosing brain tumor. I believe the speaker has overvalued the X-ray in the diagnosis of tumor of the brain. A tumor of dense consistency, one that may be called an exostosis, can be easily detected by the X-ray, but that kind of tumor can also be diagnosed without the X-ray. However, in the very cases in which we need the use of the X-ray as an aid in diagnosis we are left in the lurch. Tumors situated in regions where the focal symptoms are indefinite, where we suspect a brain tumor, we are disappointed in the findings of the X-ray. I have in mind a case of infiltrating glioma in the frontal region which gave indefinite signs of brain tumor. I was enabled to make a focal diagnosis of neoplasm, the diagnosis was verified on the operating table and at the post-mortem examination it was found that the localization of this tumor was correct—yet the X-ray gave us no clue either to the existence or situation of the tumor.

I will take issue with the gentleman and say that in spite of X-ray findings we should make a careful study of every case; study every little sign that may have some bearing upon the case, and only when we have positive signs of brain tumor make such a diagnosis, no matter what the X-ray may prove. Oppenheim, who has written one of the best monographs on tumors of the brain, says that the X-ray can only be relied upon in a very, very few cases; so that in view of this fact, we must not be too optimistic about the value of the X-ray in the diagnosis of brain tumor. We must admit, however, that the doctor has succeeded in showing us the best skiagraphic views of the brain ever produced, and I congratulate him upon his technique.

Dr. L. Harrison Mettler: I do not know that I ought to say anything, Mr. President, in regard to this case, inasmuch as Dr. Grinker has really taken the words out of my mouth, and he has said it in a better way than I could have done.

My old professor, the eminent Da Costa, of Philadelphia, used to say to us, when teaching us about the use of the stethoscope, he being one of the first, if not the first, to introduce it into this country: "Gentlemen, in practice, use your stethoscopes, but do not depend upon them. Let them assist you, but make your diagnosis, if possible, without them."

In regard to the X-ray in the diagnosis of brain tumors, the same remark may be made. I have had a limited experience in the use of skiagrams and in attempting to diagnose intracranial neoplasms, and I must confess that I have been frequently disappointed in the diagnosis made by the skiagram on one side, when clinically I felt sure that my diagnosis was correct that there was a growth on the opposite side; and I have urged the surgeon to follow the skiagram in operating, although it was against my clinical findings. In one or two instances a second operation was made upon the other side, and at the second operation the clinical diagnosis was nearer the point than the skiagram. If we depend upon skiagrams to make a diagnosis in all instances of brain tumor, we will be disappointed very much at times.

I agree with Dr. Grinker that we should not rely too much on the use of the X-ray in these cases, but depend upon those well-known established clinical findings of intracranial growths of all kinds. Skiagrams in these cases are simply confirmatory; yet skiagraphy in connection with brain tumors has not reached that point of perfection where we can use it at all times in an absolutely confirmatory sense. After all, it is only an aid, and one that we should not place too much confidence in. One's clinical diagnosis, if it is sufficient to lead to a skiagraph, will probably be much more reliable than the skiagraph itself in making the ultimate or final diagnosis of the case.

Dr. Reichmann (closing the discussion): It is possible to skiagraph the convolutions of the brain and bring them out very clearly, and in this particular case we have positive evidence of the presence of a tumor of the brain. This tumor can be plainly seen, and it was on this account that I have exhibited the case before the Society.

Dr. David Lieberthal presented a case of **urticaria pigmentosa.**

The disease belongs to the rarest of affections of the skin. There are no more than about thirty cases recorded. It begins in the first weeks or months after birth as a plain urticaria. The lesions do not disappear quickly, but persist for days or weeks. The color which is at first bright red changes to purply-yellow, yellowish-brown or dark brown. Although the wheals disappear, the stains remain place for months or years. New lesions appear with the same changes, but there are periods of remission when but a few lesions are present. At the friction of the spots new wheals spring up or disappearing ones become more pronounced. The lesions itch considerably, as a rule. The places of predilection are the trunk and extremities, although in the course of time face and scalp may become affected. As puberty approaches, the disease begins to subside and disappears soon afterwards. The general health is, as a rule, good. The etiology is unknown. The pathology offers similar conditions as a plain urticaria, with the addition of increased pigment in the epidermis and an accumulation of mast cells in the cutis. In the diagnosis two conditions should be considered. Where the spots are yellow, xanthoma must be excluded. Urticaria pigmentosa begins soon after birth, and the lesions will become more pronounced by friction. The histological findings are perfectly distinct in both conditions. Another form of urticaria, uticaria perstans cum pigmentatoine, occurs at all ages and does not show numerous mast cells in the corion.

The prognosis of uticaria pigmentosa is

unfavorable. The general health of the patient does not suffer, and the disease disappears about the time of puberty. There is no specific treatment known. Internally, sodium salicylate, atropine and other remedies are recommended. Besides, the digestion should be looked after. Externally, all those applications should be employed which will relieve the itching.

The present patient is a girl of four, in whose family there is no skin affection known. Her parents and her sister of two were always and are enjoying good health. The patient was always well except that she had a mild case of measles six months ago. Her skin affection began six weeks after birth in the form of an urticaria and dark spots were first noticed by the mother two or three months later. It appeared first on the chest and abdomen and spread with intermissions until it now covers the trunk, extremities, neck and partly the face. The lesions were always accompanied by itching. Change in temperature has a decided influence on the color of the lesions. In warm weather or after a warm bath the brown spots appear more red, while in cold weather dark brown. By rubbing them they become more prominent and reddish.

Incipient Acromegaly.

Dr. Harold N. Moyer: This woman is 23 years of age. She consulted first for progressive failure of vision. Two weeks ago her right vision was 22/100; left vision 20/30. For seven years there has been no menstrual flow. Three years ago she began to have headache on the right side. The pains were neuralgic in character and radiated into the temple, and they have progressed with increasing severity. That is the subjective history, and other than that she has been well.

She has bitemporal hemianopsia. This locates the lesion which is due to pressure upon or destruction of the anterior part of the optic chiasm. There is anesthesia on the nasal side of each retina. The natural supposition is that it is due to a growth, probably an enlargement, of the hypophysis. The chiasm is separated by only a thin plate of bone from the sphenoidal sinus, and has bony structures all about it. An exostosis, or a growth other than enlargement of the hypophysis, might give the same symptoms. Again, there might be enlargement of the hypophysis without acromegaly. I understand all these possible exceptions. We have certainly to deal with a slow growth. How long she has had the hemianopsia is unknown. She was not aware before she was examined that her fields had narrowed on the outer side, so that we are limited in our deductions from the history to these simple facts; assuming that the head pains have to do with the same trouble, then we must go back at least three years for their origin.

In acromegaly amenorrhea is a common symptom. It occurs in perhaps 20 or 25 per cent of the cases.

In a collection of 175 cases 92 per cent had distinct eye symptoms, and of these about one-third had bitemporal hemianopsia. There are all kinds of visual fields in that list. In one there was blindness in one eye, and on the other side blindness of temporal half of the field. The most distinctive alteration in the visual field is this bitemporal hemianopsia, as it locates the site of pressure.

The eye grounds are negative. The right nerve head is perhaps a little pale. Aside from that the disc is clear and the macular region is free from involvement.

I have already mentioned amenorrhea and headache. She speaks distinctly of somnolence. She is sleepy most of the time. She falls asleep very readily. If she sits down during the day she can go to sleep. She will sleep indefinitely mornings if she is not called.

She says her face is enlarged. I have here a photograph which was taken five years ago. It seems to me that her face has broadened. She thinks herself that it is broader in some places than it appears in this photograph.

The most characteristic thing I relied upon for a diagnosis in this case is the fingers. I think you can see at a distance that they are enlarged; a clubbing of the last joint. In one of the fingers there is a thickening of the soft parts about the first joint, all of them being nearly alike, but not involving the thumb. Comparing her fingers with my own, the difference is very noticeable. You will notice enlargement of the last phalanx of this finger (index). That is true of all the fingers of the right hand, with the exception of the little finger, in which the condition is not so marked.

Taking the history of the case as a whole, the somnolence, the amenorrhea, headache, bitemporal hemianopsia, failure of vision, clubbing of the extremities and enlargement of the face, if there be such, I think we are justified in saying that we are dealing here with a case of acromegaly in its incipiency.

I notice that we have quite a representation of surgeons here tonight, and I would especially direct their attention to this case, as it is one in which pressure on the chiasm is rapidly lowering vision in one eye, and what practically amounts to blindness in the other eye. If the case progresses, very soon optic atrophy will supervene. I would like to know if the surgeons would not attempt the removal of the pituitary gland in such a case. There ought to be some advance in surgery of late years along this line. It seems to me surgery offers the only chance of saving the optic nerves. I understand that an operation has been attempted in a similar case, but I have not been able to get at the original report.

Hinsdale, in his monograph published in 1897, spoke very favorably of the thyroid gland and also of the pituitary gland extracts, and I shall get some of the pituitary gland extract, if I can. She has been for three days on desiccated throid, but as yet it is too soon

to predict anything. Osler speaks disparingly of it, but the literature is favorable to the use of glandular extracts. This is the earliest case in which I have been able to make a diagnosis, and I feel quite confident that it is acromegaly.

Discussion.

Dr. Julius Grinker: I would like to ask Dr. Moyer what he thinks of the article of Dr. W. W. Gray, who has recently described cases of beginning acromegaly. He has observed three case in which there was no enlargement of the extremities nor of the maxilliary bone, and he has made a diagnosis of incipient acromegaly from the separation of the teeth in the lower jaw as compared with their previous state. That is to say, he believes that if a person has large or abnormal spaces between the teeth of the lower jaw, and it can be ascertained that previously the teeth were close together, and began to separate or leave spaces, this is to him a sure sign of beginning acromegaly.

It would be interesting to have this statement verified in this supposed incipient case of acromegaly.

Dr. Rosalie M. Ladova: As regards the shape of the patient's fingers, as it was pointed out by Dr. Patrick, it is hardly fair to compare them with the doctor's own fingers, as allowance must be made for individual variations and the individual's own fingers should be compared at different periods of life. A slight change in the shape or size of a hand is a natural thing. As we grow older the shape and size of individual organs and of the whole body changes, and unless it reaches a pathological degree it is unscientific to look upon as a sign of disease.

There is nothing striking in the appearance of the patient as yet.

Acromegaly is one of the few conditions where the appearance is striking, and one who has seen one case cannot help recognizing the next at a glance.

If it were an early case the pressure symptoms would not be as marked as they are here; in an advanced case the appearance would probably be more characteristic.

While I would not feel like disputing the doctor's diagnosis, I would not be inclined to consider it positive till a later date.

Dr. Moyer (closing the discussion): You will observe that in this patient the teeth are not separated in either the lower or upper jaw, but are close together. This sign in connection with the teeth was described in Germany before it was taken up in St. Louis. When the jaw enlarges in cases of acromegaly so that the teeth become more or less widely separated, the diagnosis is easy from the changes in the bones.

Dr. Patrick has only repeated what I said, namely, that tumors of the pituitary gland occur without acromegaly, and acromegaly without involvement of the hypophysis. It is certain that there is pressure on the chiasm, and associated with it a rapidly increasing blindness without nerve change. The macular region is clear. If I were certain that this case was one of acromegaly, I would not have brought it here, as it would not interest you, but the fact that it is one of those speculative cases makes it valuable for us to discuss.

Discussion.

Dr. Harold N. Moyer: I do not know why Dr. Patrick calls this a case of Saturday night palsy when he says that it occurred on Friday night. As a matter of fact, these palsies that occur during the day or night are due to pressure. When Rush Medical College moved to its present location, there was an immense amount of building going on in the neighborhood. Almost every rainy day during the active building season we would get a case of pressure paralysis. The rain would come on, the men would cease work and go out for a pail of beer. They would lie down on a lot of lumber, put the forearm under the head and produce pressure paralysis in that way. I have seen one case of pressure paralysis in which the ulnar nerve was alone involved. The patient fell asleep standing at a bar resting his chin on his hand, the elbow resting on the bar pressing on the ulnar nerve and causing complete paralysis. He also had atrophy, from which he did not recover.

Southern District, Chicago Medical Society.

The annual meeting of the Southern District was held at the Vendome Hotel, Tuesday, September 21, 1905. The annual election of officers resulted in the election of Charles E. Paddock, President; W. S. Harpole, Secretary; F. Gurney Stubbs, Treasurer; Councilor, Joseph Miller; Alternate Councilor, W. H. Cheney.

After the transaction of the usual business of the annual meeting a smoker was held. The meeting was well attended.

W. S. Harpole, Secretary.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

A regular meeting was held October 3, 1905, with the president, Dr. William L. Ballenger, in the chair.

Fibrolipoma of the Throat.

Dr. E. Fletcher Ingals exhibited a patient, and said:

You will recall my presenting the history of a case some time last winter, in which a man had a large fibrolipomatous tumor in the throat. I removed a piece of it and the remainder fell through a hole in the mucous membrane of the larynx and choked him, so that I had to do an instant tracheotomy, and after perhaps ten or twelve days another piece was removed, so that the tumor was pretty nearly all taken away. Before he left the city I injected the remainder of the growth with lactic acid, using 2 per cent carbolic acid, with a view to preventing after-

pain from the injection of the 20 per cent lactic acid. I had not seen him again until yesterday, when he came to the office, and I found that the appearance of the growth had changed considerably and it seems to me it is considerably smaller than it was when he went home, although I must confess I cannot tell exactly what the size of it was when he went home. It appears to be located differently, and I think perhaps you can get a very good idea of its present appearance from a drawing I made in the record. It shows a tumor on the upper surface of the right side of the epiglottis, but not attached to the pharyngeal wall, as I had supposed it was when I first saw him. Looking back a few pages in the case record, we find the tumor as I saw it last winter, when I caught it with snare and had the critical time with him.

I asked the patient to come here tonight because I wanted the members to look at him and suggest what is best to do for him. He cannot stay in the city long. I used 2 per cent carbolic acid and 20 per cent lactic acid, injecting twenty minims. He bathed the throat during the night with ice water, for the purpose of keeping down the inflammation. He used cold water during the night, and when I saw him today the mass was much larger than when I saw him yesterday, not twice as large, of course, but the growth was not enough to be in any way distressing, or the cause of danger.

If some of the members will examine the case thoroughly and make suggestions as to what might be done in the future, I should be very much pleased.

After the trial last winter, the only thing that seemed to offer a good outlook was to make an external incision and remove the growth in that way. This was recommended, but he objected to it, and when he looked much better yesterday I thought it would be well to follow out the plan we started.

Discussion on Dr. Ingals' Case.

Dr. Norval H. Pierce: The mirror picture is very much like that of a branchial cyst. It seems to invade different tissues, apparently being embedded in the side of the epiglottis and the base of the tongue and pharyngo-epiglottic fold. I believe that a permanent and thorough result can hardly be obtained by local treatment, and I think, if it were my case, I would advise removal by external operation, namely, Lagenbeck's lateral pharyngotomy.

Dr. Ingals (in closing the discussion) said: It seems to me the suggestion of Dr. Pierce as to the treatment is radical. The patient will not consent to an external operation on account of the impairment.

As to its being a branchial cyst, I suspected it when he came back last fall. I removed the growth some five years ago first, and when he came back last fall the appearance of it led me to believe that I had made a mistake. I thought we had to deal with a branchial cyst, but the result of the operation disclosed that it was not.

Presentation of Cases Operated on by the Killian Method for the Cure of Suppurative Frontal Sinus Disease.

Dr. Norval H. Pierce: I have two cases of frontal sinus abscess that were operated on by the Killian method, one of which was operated by me and another one that was operated upon by Professor Killian himself, and these two patients have been kind enough to come here to let you see the result of the operation by the originator of the method.

Mr. K. was a patient of mine before he went to Europe, and a diagnosis of empyema of the frontal and anterior ethmoidal cells and antrum was quite easy. I treated him by local methods for a long time, until, in short, both he and myself became discouraged and I advised the radical operation. He chose to go to the fountain-head, to Killian himself, which he did, and comes back more than satisfied. I saw Mr. K. some time after the operation, which was done in July. At that time there was nothing to be particularly proud of, as the antrum was full of cheesy matter; there was osteomyelitis of the anterior portion of the upper jaw bone. Mr. K. again went to Europe and the operation on the antrum was completed. The surgical treatment has been successful. Mr. K. is now entirely well and he will permit any of you to examine him.

The other case I operated on three weeks ago today. It has several points of interest: (1) Marked deviation of the septum to the left; (2) destruction of the bone, septum between the two frontal sinuses and (3) the peculiarity of history.

The young man says that almost as long as he can remember he has had attacks of swelling of the left eye and exophthalmos four or five times a year. The eye would return to normal. The attacks were accompanied by great headache, but there was no history of nasal discharge until lately. For some time past he says that he has become mentally obtuse. He is a newspaper man, and he thinks that his memory has been failing him, and on account of some pain over the eye and a discharge from the nose, together with this mental hebetude, he applied to me for relief. The diagnosis was made, not by intranasal examination, because it was exceedingly difficult to get a view of the region about the anterior head of the middle turbinated body, but on account of the history of swelling, exophthalmos, and because there was a discharge of pus from that side of the nose. The usual incision was made, and the moment the mucous membrane was punctured the pus pulsated out of the wound. I suspected a perforation of the inner tablet of the skull, but found none. The partition between the two frontal sinuses had entirely disappeared, and the other frontal sinus was full of granulation tissue and pus, so that a probe inserted at this point could be very easily run in as far as this (illustrating). The floor of the sinus was removed, the frontal process of the superior maxilla was removed, the anterior cells of the

ethmoid removed, and the wound closed. Healing occurred by first intention, with the exception of a small portion, the size of a pinhead, and the patient has made an uninterrupted recovery. There is very little discharge now, and what discharge is taking place comes from the frontal sinus, which drains from the nostril. I can wash out the frontal sinus of the opposite side by a curved canula pushed up into the nose. This patient will permit you to examine him.

The other case is one of some interest, namely, a large bony cyst of the anterior end of the middle turbinated body, with the most extensive deviation of the septum that I have ever been called upon to correct. It was S-shaped up and down, S-shaped inferior-superior and antero-posteriorly. The upper portion on the right side was pushed against the middle turbinated body, so that the fissura olfactoria was obliterated. Posteriorly the left side was occluded. He could not breathe through his nose, and he was greatly distressed. The first thing I removed was the large cyst of the middle turbinated body of the left side. This was as large as a pigeon's egg. Now, the most interesting thing about the case is that within a week after the operation on the septum enormous polypi sprung into existence.

I have not examined him for nearly a week, and the last time I saw him the polypoid growths were diminished, but within a week after the operation both nostrils were so full of polypi that he was worse after than before the operation as far as nasal respiration is concerned.

The next point of interest is the ridge which has formed on the right side of the septum, notwithstanding the fact that all the cartilage was removed. This ridge may be the result of the organization of an exudate of serum or blood between the two leaves of the mucous membrane.

Discussion.

Dr. J. Hollinger: I would like to ask Dr. Pierce why he did not operate on both frontal sinuses at once. In F. f. o. Libenmann described the operation of both sinuses with an "H" shaped incision; that is, to use Killian's incision on both sides, connected with a cross incision at the bridge of the nose. The double sinus operation is not at all very exceptional and gives good results.

I showed a case with Killian's operation before this Society in which there was no connection of the frontal sinus with the nose, or ethmoidal labyrinth or maxillary sinus. In this case, too, the operation was done in a typical way, namely, the removal of the whole mucous membrane of the sinus, the removal of the roof of the orbit, followed by the transplantation of the tissues of the orbit into the frontal sinus.

As to the other patient with polypi after the removal of a large cyst of the nose, I showed last winter a specimen before the German Medical Society. It was parts of the wall of a large cyst of the middle turbinate. A large bunch of polyps fell down into the nose and occluded that side completely. At that time I looked up the literature on the subject, and was surprised to find nearly unanimous consent on the part of authors that these bone cysts are congenital. I do not think we have a right to call a cyst congenital that is so typical of an inflammatory origin.

This is the second case with which I am familiar. The above deductions of a Japanese physician, Kichuchi, who has done the best work in this line, are contrary to facts.

Dr. Joseph C. Beck: Mr. Chairman—These are certainly interesting cases, but I do not think Dr. Pierce does himself justice in showing the case he operated upon at this time. I believe if he were to exhibit this patient six months later, after he had done a good job on the septum, and has established good drainage, he will be more satisfied. From the exterior it looks very well, but I have had an experience in a case of frontal sinus disease that I presented to you last year as cured by means of the Killian operation. This case presented a picture similar to that of Dr. Pierce's case, namely, a deflection of the nasal septum. I operated on the frontal sinus and did not provide for good drainage, hence there was a recurrence, and I had to reopen again, and not until the nostril was free, so far as the olfactory region of the upper nose was concerned, did the patient remain well. I doubt whether Dr. Pierce's patient is well at this time.

The description of the two sinuses being involved in this case cannot be doubted, since the operator has pased a probe from one sinus to another. We do not have a history of suppuration from the right side of the nose, nor is there any evidence of any suppuration on this side.

The other case of frontal sinus disease reported by Dr. Pierce shows the good result from Killian's method and of paraffin injections. This is easily done in all these operations. After secondary contraction of the scar takes place there is an excavation, and this excavation can be filled out very nicely with a small amount of paraffin.

Dr. E. Fletcher Ingals: Dr. Pierce spoke of polypi coming down so soon. I want to ask whether he supposes they were formed in that length of time, or whether they had been hidden away somewhere before? I have often seen large polypi within a few days after I had thought the nose was absolutely free. Certainly there was no polypi when I got through with the patient, but I found them within a week thereafter, and I had supposed that they were formed before, and that there was a little sac with nothing in it that filled up suddenly. I do not know what pathologists say about that. I simply ask the question for information.

As to the case in which he found two frontal sinuses connected, it recalls to my mind a case I operated on some years ago where there was no visible partition between the two and the posterior wall was entirely gone. We know that sometimes the sinus on one side may either be absent or very small and both sinuses may

discharge normally through a single duct, so that it is not altogether singular that he found these sinuses involved at the same time.

As to the after results of these operations, the patient can be very greatly benefited by the use of paraffin, as shown in this case, and whether the paraffin is entirely innocuous or not is still, I think, open to question, but where it can be used and it works well it would be a great improvement in the appearance of Dr. Pierce's patient. In a number of cases I saw last Spring that had been operated on the contractions made a hideous scar that would certainly be objectionable to a lady. This can be overcome by the paraffin, for a while at least, if there should be contraction in Dr. Pierce's case.

Dr. Henry Gradle: I wish Dr. Ingals would give us more of the details of his operation on the frontal sinuses through the nose.

Dr. Ingals: The operation I suggested for draining the frontal sinus was one that is applicable where we can get a probe into the sinus, and where this can be done we can make a free opening. I have a couple of patients who had disease of the frontal sinus, one of them apparently for ten years and the other for sixteen years. In both cases suppuration ceased within ten or twelve months. There was not so much pus as there is in those cases where Professor Killian operated. I could not see anything that looked like pus. I have a gentleman upon whom I operated two months ago where the disease had been running for some years—I do not know how long—where the results seemed to be good. The operation is done by introducing a probe from a millimeter to two millimeters in diameter, and over this probe a hollow bur is run in. I run over the hollow bur a spiral tube to keep the bur from irritating the tissues, as it is turned, and the bur is connected with a dental engine and pressed in, and it cuts into the frontal sinus quickly. The pilot or probe projects beyond the bur a millimeter or a centimeter if you choose, so far as you like, and the bur cannot possibly get nearer than that, which prevents you from opening through the cerebral side of the frontal sinus. The operation seems desirable in suitable cases, even where one might want to do a radical operation, because free drainage can be established by putting in a little tube, and you all know the shape of the tube.

Dr. Pierce (closing the discussion): Professor Killian advises against the double operation at a single sitting. There is nothing to be gained by it, and he finds that the shock of the double operation is comparatively much greater. Therefore, he operates, if both sinuses are affected, on a single sinus at a time, and I followed his advice in this case. Had I not been with and seen this method of Killian I should not have operated on both sinuses at one sitting. It took nearly two hours to do this operation, and the patient was quite weak at the end of that time. However, I believe that this sinus on the right side has a chance of getting well without any further operation. The sinus now drains thoroughly and each day there is a decided lessening of the discharge. The question has occurred to me whether this large cavity over the right side is a part of the left sinus. Possibly it is. It is possible that there is only one sinus in this case. It may be an enormous right sinus which reaches over the right side, and there may be a very small one still further to the outer portion of this sinus.

In answer to Dr. Beck's remarks I would say that the sub-mucous resection of the septum should not be performed in the presence of empyema of the sinuses. Killian puts that down as one of the contradistinctions for the operation.

In answer to Dr. Ingals' question, I believe these polypi on the left side were formed *in toto* within a week, because I was careful in examining two or three days afterwards to note the absence or presence of polypi, and there were none, so far as I could ascertain by careful examination. The location of some of these polypi render it impossible that they were overlooked.

Dr. Otto T. Freer exhibited a patient and read a short paper on this subject.

Diffuse Infiltration of the Right Side of the Nasopharynx With Paresis of Cranial Nerves.

Dr. Otto T. Freer, Chicago: The patient, a porter by occupation, is 46 years old. He states that excepting scarlet fever in childhood, he has never had an illness until the one which afflicts him now. His family history is negative and his habits exemplary. The scarlet fever left him very deaf in the left ear, but the hearing in the right ear was perfect until his present affection, which began in July, 1904, with ringing and rushing sounds in the right ear soon followed by slowly increasing deafness. In November, 1904, he began to have pain extending over the entire right side of his face to the median line and also felt in the temple and scalp as far back as the ear. This pain has never ceased and in consequence he has not had a good night's rest during the past year, especially as the suffering is worse at night, subsiding in a measure in the daytime. Since May, 1905, he occasionally has a sensation as if flies were crawling upon the right side of his face and the same region is at times the seat of abnormal sensations of heat and cold. The pain affects all of the teeth, which are sound, on the right side of the upper and lower jaw as far as the centre and the same teeth feel numb when he chews. This unpleasant sensation and a sense of powerlessness in the right half of the jaw led the patient to masticate with the teeth of the left side.

On the 20th of March, 1905, he was operated upon in a hospital, the constant pain in the right side of his head and face having lead the surgeon to suspect brain tumor so that the skull was opened in the right temporal region. Shortly after this operation he saw double and some weeks later his right eyelid began to droop, the lid for the past six weeks remaining completely closed, though it could be raised by a great effort up to October 2, 1905. He has never had

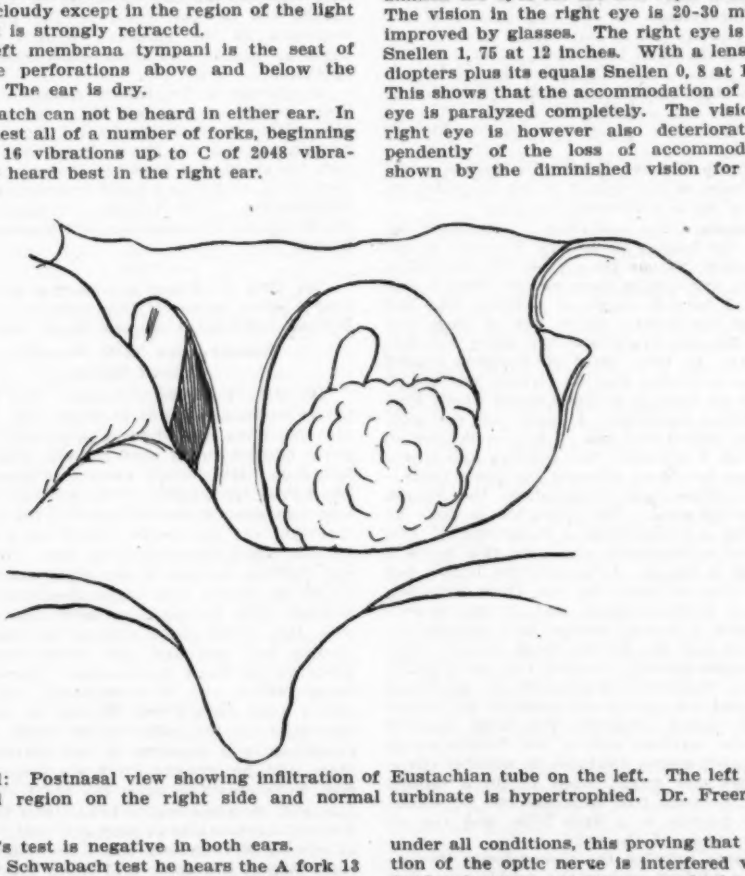
vertigo nor vomiting. He has a constant slight tremor of the hands which he claims to have had since childhood. His right nostril is partly obstructed and is apt to close entirely at night.

From descriptions he has given he has evidently had treatment with mercurial inunctions and iodide of potassium last winter.

Examination shows the right membrana tympani cloudy except in the region of the light reflex. It is strongly retracted.

The left membrana tympani is the seat of two large perforations above and below the malleus. The ear is dry.

The watch can not be heard in either ear. In Weber's test all of a number of forks, beginning with C2, 16 vibrations up to C of 2048 vibrations, are heard best in the right ear.



Legend: Postnasal view showing infiltration of Eustachian tube on the left. The left inferior tubal region on the right side and normal turbinate is hypertrophied. Dr. Freer's case.

Rinne's test is negative in both ears.

In the Schwabach test he hears the A fork 13 seconds longer than normal in the right ear.

All tones of the Galton whistle are readily heard in the right ear but the left ear perceives only its loudest lower tones and hears the low forks proportionately better than high ones.

Whispered numbers are not heard in the left ear and only the loudest voice close to it. Before inflation with the Eustachian catheter whispered numbers are understood in the right ear when the mouth is very close to it and spoken numbers are heard at 18 inches. After it has been inflated the right ear perceives whispering at 3 inches and the voice at 3 feet instead of 18 inches. The conclusion drawn from the hearing tests is that the deafness in the right ear is due to imperfect sound conduction and that the right labyrinth and auditory nerve are intact. The affection of the left ear is evidently an old post scarlatinal condition that has no connection with the present trouble.

At my request Dr. W. Franklin Coleman examined the eyes for me and reports as follows. The vision in the right eye is 20-30 minus, not improved by glasses. The right eye is equal to Snellen 1, 75 at 12 inches. With a lens of three diopters plus its equals Snellen 0, 8 at 12 inches. This shows that the accommodation of the right eye is paralyzed completely. The vision of the right eye is however also deteriorated independently of the loss of accommodation as shown by the diminished vision for distance under all conditions, this proving that the function of the optic nerve is interfered with. The fundus however appears normal, the lesion to the optic nerve not changing the ophthalmoscopic image. The vertical aperture of the right lid is about 4 millimeters when the patient raises it by the aid of the occipito-frontalis muscle. Up to the day of Dr. Coleman's examination, October 2d, however he was able to open the eye nearly completed by the use of the levator palpebrae, which is now completely paralyzed. The right eyeball can be moved outward only 10 degrees, inward 15 degrees, upward and downward 10 degrees. The right pupil is slightly dilated and 4 millimeters in diameter, the left pupil being 3 millimeters across. The right pupil reacts but slightly to

light and not at all to convergence. The tension of the eye is normal. There is no exophthalmos. A test with cylindrical glasses shows paralysis of both oblique muscles of the right eye. Nevertheless the patient sees things horizontally because both these muscles being paralyzed they balance each other.

The left eye has perfect vision, 20-20 plus, equals 0, 5 Snellen at 12 inches and is normal.

The conclusion to be made from the ocular findings is that all of the nerves supplying the right eye are damaged, the oculomotorius being paretic in all but the branches supplying the inferior oblique, levator palpebrae muscles and muscles of accommodation which are all completely paralyzed, the inferior, internal and superior rectus muscles showing only greatly impaired function. The right optic nerve is paretic and the trochlearis nerve completely paralyzed. The patellar reflexes are normal.

Three and one half inches above the centre of the right zygomatic process the scar of a wound in the skull may be seen. It is about one inch long and but slightly depressed.

There is no facial paralysis and no paralysis of the tongue or palate. Speech is normal. The patient says the right half of the tongue feels numb to the touch but he notices slight contact nearly as well as on the left side.

There is decided analgesia, as tested by a pin point, over the entire right side of the face to the median line, over the right temporal region of the scalp and over the right pinna as far as its posterior free border. The analgesic zone stops with striking abruptness on the dorsum of the nose and in the median line of the chin. There is complete anaesthesia of the integument over the right half of the chin but everywhere else over the analgesic area he feels the touch of the finger, but not as acutely as on the left side of the face. He called my attention to the fact that when he felt of his ear he had the normal sensation of touch over the back of the pinna, (region supplied by the auricularis magnus nerve derived from the cervical plexus) and that the entire ear in front of this had an unnatural sense of numbness on contact. (Region supplied by the auriculo-temporal nerve, branch of the third division of the fifth.)

The faradic current is not felt at all over the affected area but is distinctly noticed on the left side of the face.

The sense of smell is not impaired.

Examination of the nasopharynx presents the condition shown in the drawing, a diffuse swelling of the right tubal region which nearly hides the choana, conceals the orifice of the right tuba auditiva and extends into the fossa of Rosenmueller and on to the dorsum of the soft palate. The catheter enters the tube with some difficulty but air may be made to enter the tympanum at 22 pounds pressure, the sound being dry.

These are the findings. It seems to me that some common cause has injured the right oculomotorius trochlearis and abducens nerves and of all of the divisions of the right trigeminus. The paresis of the oculomotorius is evidenced by the nearly immobile pupil, the closed eyelid and the limited motions of the globe upward, downward and inward, while the proof of paresis of the abducens lies in the feeble motion of the eyeball outward. The proof of paralysis of the trochlearis and inferior oblique muscles has been made by Dr. Coleman as described. The interference with the functions of the entire right trigeminus is shown by the widespread paraesthesia, analgesia, spontaneous pain and numbness in the area of its distribution and the weakness of the muscles of mastication of the right half of the jaw. The optic nerve has also not escaped slight damage to its trunk between the chiasm and eye.

It is justifiable to connect the partial interference with the functions of the nerves mentioned with the diffuse swelling that occupies the right side of the nasopharynx and deforms the cartilaginous Eustachian tube. It is difficult to tell whether this swelling be neoplastic or inflammatory infiltration of the granulation tissue order. It has evidently caused the deafness by closure of the lumen of the Eustachian tube to all but strong currents of air.

I regard the swelling seen in the right tubal region as a part of a more extensive infiltration which extends up into the cranial cavity through the openings in the base of the skull situated at the apex of the pyramid (petrous portion) of the temporal bone. These openings are the carotid canal, the foramen lacerum medium and the foramen ovale which transmits the third division of the trigeminus nerve. This division descends close to the outer side of the Eustachian tube and it is this division which has suffered most injury as shown by the complete anaesthesia over the right half of the chin while the other parts of the affected area are merely numb.

In front of and close to the apex of the petrous portion of the temporal bone lies the cavernous groove for the cavernous sinus which is created by a folding of the dura mater. In close relation to this sinus, the trunk of the internal cartoid artery and each other lie the third, fourth, fifth and sixth cranial nerves and the optic nerve, so that a common compressing agent might interfere with the functions of all of them. Nevertheless this compression so far has been moderate so that some of the nerves are not completely paralyzed.

The aspect of the swelling in the nasopharynx presents nothing characteristic. It forms a diffuse infiltration of the normal parts rather than a distinct tumor and there seems to be nothing that could be cut off for a microscopic finding. The conditions most likely to come in question are a gummatous or neoplastic infiltration of the region involved and it seems probable that the morbid process began in the cranial cavity and is invading the nasopharynx through the openings mentioned in the neighborhood of the tuba auditiva.

The patient's history and the lack of effect of the antisyphilitic treatment to which he was

subjected last winter according to his statement make lues unlikely as a cause.

Carcinoma sometimes begins as a deep-seated infiltration and takes a slow course and it is not impossible that such a condition is developing. The slightly enlarged glands at the angle of the jaw are not large enough to be of value as evidence however. One of the slow growing types of sarcoma is a more likely condition though sarcoma in the region involved usually develops rapidly.

I think that time will be needed to disclose the nature of the cause of the singular signs and symptoms of this case but I shall be greatly indebted to the members of the society for diagnostic suggestions. The treatment I employ has been merely palliative so far. The patient's pain is increasing and a nerve which was merely paretic two days ago, the branch of the right oculomotor to the levator palpebrae, has now completely lost its function. The motions of the right eyeball are also becoming rapidly more and more limited and its complete immobility is to be expected soon. The pathologic process therefore seems to be speedily gaining ground.

Discussion.

Dr. Otto J. Stein: I did not understand whether Dr. Freer made any mention in regard to the sphenoidal sinus or not, and whether there were any findings whatsoever in regard to the condition of that sinus.

Dr. Henry Gradle: Dr. Freer's case reminds me of a similar observation. A man came to me this January, about sixty years of age, well preserved, with paralysis of the externus and paresis of the internus of the right eye, and paralysis of externus of left eye, while the eyes themselves were otherwise normal. The man stated that he had defective hearing, particularly on the right side. I could not trace the condition of the recti muscles to any intracranial process, but continuing my investigation I found his breathing was not good, especially on the right side. On looking into the nostrils nothing could be seen except a slightly defective septum. The pharyngeal tonsils were enlarged, especially towards the right, and what appeared to be a diffuse swelling extended to the Eustachian tube of the right side. I suspected at once new growth, possibly tubercular.

There was slight infiltration of the apex of the right lung, but a few tubercle bacilli were found in the sputum.

In order to eliminate syphilis, a thorough course of anti-syphilitic treatment was carried out, but gave no results. The man was expecting to die, when he rallied suddenly, went South for a couple of months, and returned later in moderately good health. In the meantime, a lymph gland on the right side of the neck of walnut size had grown to be the size of a small apple. The growth of the pharynx had extended so that now on inspiration through the mouth one could see the right half of the soft palate pushing forwards, having the appearance almost like a case of quinsy at its height. I could not remove any post-pharyngeal tissue with the tenotome, as I tried to. The contour was too smooth, so that my intention to have a microscopical examination of this tissue made was frustrated. Being unable to do anything more than to treat him in a palliative way, I turned him over to Dr. Pusey for X-ray treatment. His condition, to my surprise, has improved wonderfully under this treatment. The lymph node diminished materially in the course of three or four weeks. The swelling in the throat had not continued to increase as it had previously.

I was not sure that it had diminished in the visible part of the palace or at the roof of the pharynx, as far as I could examine it with the mirror, but he felt more comfortable and continued to improve for three or four weeks, after which I lost track of him. In all probability the case is one of diffuse carcinoma.

Dr. Freer (closing the discussion): In regard to the question concerning the sphenoidal sinus; I have not probed this sinus, as there seemed to be no indication for doing so. There has been no purulent discharge in either nostril whenever I have examined the patient and the location of the disorder does not indicate sphenoidal sinusitsi. Nevertheless, I intend to follow Dr. Stein's suggestion, and to pass a probe into the sinus to make sure that there is no pus coming from it.

I am glad to learn that Dr. Gradle has had a patient whose symptoms were sa nearly like those presented by mine and am interested to find that there was the same difficulty in determining the exact pathological cause.

Dr. Stein: I asked Dr. Freer a question because I know of a case that presented somewhat similar ocular symptoms which was relieved immediately by an opening made into the sphenoidal sinus.

Dr. Freer: Was there suppuration?

Dr. Stein: There was no sign of suppuration at the time. This opening was made simply for the purpose of experimentation. The anterior wall was chiseled and there was a free discharge of pus, after which the symptoms gradually disappeared.

Dr. Freer: Was there extensive paresis of the ocular muscles?

Dr. Stein: Not so extensive as in your case. The optic nerve of this case was affected. It was not my case, and I am not familiar with the details of it.

(Since the above discussion the sphenoidal sinus on the affected side has been entered and found to be normal. O. T. Freer.)

Dr. O. J. Stein reported a case of laryngeal tuberculosis, and exhibited specimen.

Dr. Edwin Pynchon exhibited a new tonsillotome which was designed by him.

STOCK YARDS MEDICAL SOCIETY.

Dilatation of the Anal Sphincters.

By Charles J. Drueck, M. D., Chicago.

When preparing this paper I had misgiving lest I was taking up your time with apparently a very trivial procedure, but in looking through the textbooks on surgery and even

the authorities on rectal diseases I found very brief or no mention at all made of this subject about which even well-informed general practitioners are often uncertain as to the best method of procedure.

Divulsion of the sphincters, literally interpreted, means to tear or rend asunder and that is what usually occurs when the patient is chloroformed and the muscle stretched by introducing the thumbs through the anus and dragging them sideways until they touch the ischial tuberosities. Such brutal traumatism is seldom necessary in modern surgery. What we wish to accomplish in the majority of instances is simply to overcome the natural or exaggerated contractility of the sphincter that we may open the anus sufficiently for examination or operation. If this can be accomplished without a general anesthesia, it brings within the scope of office and ambulant treatment many cases which were formerly attended only in the hospital. It is my object to outline here a plan of treatment which in my hands has yielded thoroughly satisfactory results in properly selected cases, obviating the dangers of chloroform without adding any disadvantages or complications. As this method is applicable to both examination and treatment, I offer it as having a well defined field.

Stretching the sphincters forms an important step in the treatment of most rectal diseases because it produces certain anatomical changes and definite physiological results. Stretching a muscle also stretches the fine nerve filaments in its substance and produces a paralysis of these fine twigs. The action is the same as is produced when stretching the sciatic nerve. Localized inflammatory products are broken up and as a result sphincteric spasm, pruritis and hypersensitiveness are mechanically relieved. In many instances pent-up secretions are thus provided free drainage. If this traumatism is limited to the nerve branches in and about the sphincter, the regeneration of the nerve soon occurs and the paralysis is only temporary. If, however, the larger nerve trunks out toward the ischial fossa are injured, regeneration is more remote and it is possible for cicatrization and atrophy to occur in the muscle before new nerve is built up and the paralysis may be more or less permanent.

Every thorough examination of the rectum includes a digital exploration, and the introduction of the fingers puts the sphincters on sufficient tension to demonstrate many important things. The finger thoroughly annointed with white vaseline or olive oil (not glycerine, because that stimulates the bowel to evacuation) is gently insinuated with a boring motion, remembering the direction of the rectum; forward toward the pubes until the sphincters are passed and then backward toward the sacrum. As soon as the finger touches the sphincter the latter contracts spasmodically. If, however, the finger is held firmly against the anus for a minute the muscle relaxes and in many instances the fingers may proceed without difficulty. The sphincter is now slightly stretched and the degree of contraction, or bite, informs us of the tone or irritability of the muscle. This digital stretching is always essential before the specular examination in every new case, because it demonstrates not only the condition of the muscle itself but also determines many diseased conditions and thereby permits the operator to subsequently dilate the sphincter instrumentally without causing much pain in many instances. In new born infants stretching the sphincter with the obstetrician's little finger is one of the most powerful respiratory stimulants, and in older children it will be noted that the introduction of the enema tip is often sufficient stimulus to bring on defecation without the use of liquids.

If in a given case the finger has been introduced and the sphincter and the rectum found normally patulous, the anoscope or a speculum may be slowly introduced without causing pain and the lower rectum dilated enough for examination or treatment. If, however ,certain diseased conditions exist which have caused an irritable and hypersensitive sphincter, the muscles will be found to bite the finger abnormally and the anus needs preparation. To temporarily overcome these conditions we have recourse to local anesthesia, a condition which may be produced by a number of agents, the most popular of which is cocaine. This drug, in weak solution, may be used with perfect safety so long as the total amount used at any one sitting is less than one-half grain.

By placing the hands on either buttock, the finger tips resting close to the anus, the external sphincter may be gradually drawn open (everted) until one-half inch of mucous membrane rolls out. This surface is then sprayed with a 4 per cent cocaine solution, to which is added one-half of 1 per cent of 1 in 1000 adrenalin solution. The buttock are now released and the anal canal treated by injecting 10 to 20 minims of the same solution from a short nozzled piston syringe. The patient is then placed in a semi-recumbent position for about five minutes, until the full effect of the drug may be obtained.

The adrenalin solution in the mixture prolongs the anesthetic effect, limits the rapidity of absorption of the cocaine and lessens the venous congestion which otherwise sometimes produces an annoying tenesmus for several hours following this procedure. It may be well to add that the solution is always warmed to nearly the body heat before it is used, because warm solutions are more efficient than cold, and also that the use of normal salt solution instead of plain water increases the absorbability of the cocaine.

After waiting five minutes the surface is fully anesthetized muscle itself is not interfered with and we are now ready to begin the instrumental dilatation for examination or treatment just as well as we would in a normal unirritated anal canal.

This instrument, Kelly's calibrator, is warmed to about the body heat, thoroughly annointed with any lubricant except glycerine and gently pressed against the anus. By exercising a couple of pounds pressure the instrument is inserted with a boring motion. The sphincter can usually be dilated up to two inches in diameter in about five minutes. The pressure on the calibrator must be slight but steady. Any undue haste only excites spasm of the sphincter and retards our progress.

If in the case at hand the sphincters are very irritable it may be advisable at the first treatment to distend the fibers to only one inch, and at each subsequent visit to increase the distention. The object being to speedily stretch the muscle to a diameter considerably larger than is ever produced by any faecal mass and therefore, when the bowels are evacuated, the distention is relatively slight. Having dilated the anus as much as desired the calibrator should now be retained in situ for ten or fifteen minutes until the sphincteric grasp is released. When the sphincter has been thoroughly dilated the calibrator may be slowly withdrawn, the last half-inch of the instrument being withdrawn very slowly and crowded against the anterior quadrant of the sphincter. Firm pressure against the posterior wall of the anus with the examiner's free hand also prevents sudden spasm.

It occasionally happens that even with the use of cocaine a thorough dilatation at the first sitting is very painful. If the patient complains of pain the distention should be diminished to a point where it is fairly comfortable and the physician must content himself with a partial dilatation at the first treatment. The treatments in such a case should be repeated each day, gradually increasing the dilatation until the muscle is relaxed sufficiently for all purposes.

Case 1. Mr. H. S., a stock yards commission merchant, complained of sharp, cutting pain in rectum following defecation, itching at the anus and bowels constipated. Examination showed the anus to be tightly contracted. Digital exploration was too painful to be satisfactory to either patient or myself. The anus was sprayed and the cocaine injected as I have outlined above, and after waiting five minutes I completed my examination painlessly and satisfactorily.

When disease exists above the sphincters this same method may be followed, and when the calibrator is withdrawn the anoscope or speculum may be introduced easily and without exciting spasm. The anal canal or rectum may be examined or treated just as easily as if the patient were anesthetized, as plenty of room is obtained for the treatment of diseases of the lower inch and one-half of the bowel. In the treatment of internal hemorrhoids rectal ulcers, villous tumors or other conditions requiring minor operations or treatment upon the rectum the parts can usually be distended sufficiently without a general anesthetic, only it must be performed slowly and patiently.

In the early part of this paper I called your attention to the importance of digital examination preceding the instrumental dilatation, because it furnishes the examiner precise information regarding the tone or contractile power of the sphincter. If you can introduce your finger into a patient's rectum easily and without feeling the bite or spasm of the sphincter, be very chary about introducing a speculum and distending the anal canal, because what little contractile power is present may be easily dissipated and a permanent partial or complete paralysis result. Example:

Case II. Mrs. B., at the age of 26 years, was delivered instrumentally of a large boy. The perineum was ruptured, but was promptly repaired, the patient recovered and enjoyed good health, having complete control of the bowels. Four years later she was operated upon for hemorrhoids, and since that operation has had complete paralysis. The surgeon who operated informed me that he was positive no undue traumatism was used. I mention this case to show that where the nerve supply of the sphincters has been previously injured an instrumental dilatation may be fatal to good results and a previous digital examination is indispensable.

In operating within the rectum and particularly when it may be necessary to drag upon the parts, the nerve must be anesthetized as far back along its trunk as the traction will be appreciated, because a nerve may be perfectly numb at the point at which it is cut or clamped but very much alive one-half inch farther on, and if this sensitive part is dragged when examining it will be appreciated by the patient as being at the nerve and because the same fibers are affected. Therefore, if in dilating the sphincter it is necessary to move or stretch the deeper nerves, especially if exudation to inflammation extends outside of this muscle it will be necessary to thoroughly cocainize the nerves outside of this area. In such cases infiltration of the deeper nerves is necessary.

Having discoursed at some length upon the advantages of dilatation, and hinted at operating upon, the anus under local anesthesia, allow me to remind you that this method has its limitations. While cocaine may relieve the sensations of pain, they do not remove the fear or terror of being operated upon, and a highly nervous or excited patient may not be able to keep quiet or calm while he is conscious and realizes that the surgeon is at work. In a number of such cases I have completely failed to obtain any reasonable benefit from cocaine. In selected cases, however, I believe this method brings within the field of office work many patients who would otherwise be confined to their bed for several days or weeks, and also those who object to an anesthetic or in whom its administration would be inadvisable and therefore continue for years with very painful and annoying ailments which might be promptly and easily relieved by their doctor.

599 East Forty-sixth Stret.

County and District Societies.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President.....Jno. A. Koch, Quincy
First Vice Pres.....J. M. Grimes, Camp Point
Second Vice Pres.....H. Hart, Quincy
Secretary.....Geo. E. Rosenthal, Quincy
Treasurer.....R. J. Christie, Quincy
Censors—Jos. Robbins, L. B. Ashton, E. B. Montgomery, Quincy.

Delegate to the State Society, L. H. A. Nickerson, Quincy.

Alternate to the State Society, R. J. Christie, Jr., Quincy.

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The regular monthly meeting of the Adams County Medical Society was held September 11th, with President Koch in the chair.

Those present were: Drs. Ashton, Christie, Hart, Koch, Knox, Knapheide, Montgomery, Pfeiffer, Rosenthal, Shawgo, Sigsbee, Wells, G. G. Williams, W. W. Williams.

Dr. John A. Koch presented a case of **Bradycardia;** Dr. W. W. Williams gave a report on a case of **Carcinoma of the Pylorus, Treated by Gastro-Enterostomy,** and Dr. Koch read the following summary of the **Eighth Decennial Revision of the Pharmacopoeia of the United States.**

The Eighth Decennial Revision of the Pharmacopoeia of the United States.

John A. Koch, M. D., Quincy, Ill.

Beginning with the first of September, 1905, the drugs and preparations of Pharmacopoeia have become official. It should have been issued two years ago, but the great amount of work necessary to produce this eighth decennial revision caused the delay. The alterations that have been made amounts almost to a revolution. The important features that have been adopted that are of interest to physicians are the Purity Standard Requirements which limit the quantity of innocuous impurities in substances which are used solely for medicinal purposes, and when professedly bought, sold or dispensed as such; assay processes of an increased number of potent drugs and preparations made therefrom; the statement of average approximate doses for adults in the metric system with the approximate equivalents in the ordinary weights or measures in parenthesis, but the Committee on Revision makes the distinct declaration "that it does not intend to have the doses regarded as obligatory on the physician or forbidding him to exceed them whenever in his judgment this seems advisable." The insertion of average doses is intended to furnish a guide to those who are inexperienced in prescribing or who desire to use a drug or preparation with which they are unfamiliar.

In this revision 155 articles were dismissed and 121 were added. Among the latter are a number of synthetical products of definite composition which have been in common use by the profession, the identity, purity or strength of which can be determined: one serum product and two animal products. I wish to speak briefly of the articles admitted.

Acetone was admitted chiefly for the purpose of replacing Ether in the preparation of Oleoresins, Acetone being one-third as expensive as Ether.

Under the name **Acetphenetidin** Phenacetine obtains a place, one of our best known coal-tar products.

Camphoric Acid is a valuable remedy that has a distinct power of checking the colliquative sweats of pthisis. It has a selective action on the mucous membrane, indicated in diseases of the air passages and genito-urinary tract.

Diluted Hydriodic Acid has been introduced to facilitate the preparation of Syrup of Hydriodic Acid.

Hypophosphorous Acid is used for the manufacture of the Diluted Acid.

Trichlor-Acetic Acid is a remedy much used as an escharotic in nose and throat work.

Aconitine, the powerful Alkaloid of Aconite, has been given a place; it should not be confounded with the Amphorous Aconitine that enters the Alkaloidal Granules on the market.

Lanoline is entered under the name of **Adeps Lanae,** it is the anhydrous wool-fat.

Ethyl Carbamate is the pharmaecopoeial name for Urethane, a synthetic of great value in insomnia, eclampsia, nervous excitement and tetanus.

Ehyl Chloride, the valuable local anaesthetic, has been given recognition.

Ammonium Salicylate, much thought of by many in febrile rheumatic conditions and bronchitis.

Antipyrine is now a pharmacopoeial preparation under that name.

Witch-hazel Extract has been added under the name of **Hamamelis Water,** a popular preparation of questionable value.

Under the title of **Aquae** a general formula is given for the preparation of medicated waters from volatile oils.

Benzaldehyde is artificial Oil of Bitter Almonds minus the Hdrocyanic Acid.

Purified Petroleum Benzin is used principally for dissolving fats from and deodorizing certain drugs.

Benzo-Sulphinide is the pharmacopoeial name for Saccharin.

Berberis has also been added, strongly recommended as an alterative, laxative, tonic and diuretic.

Bismuth Subgallate and **Subsalicylate** have been taken in; both are well-known preparations.

Bromoform, a very valuable preparation, is Pertussis.

We can now make our own Kaolin Paste, a fine formula is given under the title of **Cataplasm of Kaolin.**

Compound Rosin Cerate, it is used as a stimulating application on indolent ulcers.

Chloral-Formamide, commonly known as Chloralamide, is listed. A splendid hypnotic in cardiac affections.

The alkaloid **Cocaine** has been added.

Cinnamic Aldehyde is artificial Oil of Cinnamon.

Pharmacopoeial recognition is given **Codeine Phosphate** and **Sulphate.** Both are well known. Colchicine theactive principle of Colchicum.

Cresol has been added for the preparation of Compound Solution of Cresol.

Elixir Adjuvans is a splendid mixture for the administration of various substances of a bitter and nauseous nature.

We now have an official **Elixir of Iron, Quinine** and **Strychnine Phosphates,** each fluidrachm containing one grain of Soluble Ferric Phosphate, one-half grain of Quinine, and 1-60 grain of Strychnine.

An excellent formula is given for the preparation of Adhesive Plaster, the irritation of the skin by this plaster is reduced to a minimum on account of the large proportion of Lead Plaster it contains.

Three new Emulsions have been added, namely: **Emulsion of Cod Liver Oil, Emulsion of Cod Liver Oil with Hydrophosphites** and **Emulsion of Oil with Turpentine.** They are well worth the consideration of the profession.

Eugenol is artificial Oil of Cloves.

Extract of Malt is now pharmacopoeial, also **Extracts of Cascara Sagradascopola, Stramonium** and **Sumbul.**

The following **Fluid Extracts** have received recognition: **Fluid Extracts of Berberis, Euonymus, Pomegranate, Lobelia, Quercus, Quillaja, Aromatic Cascara Sagrada, Sanguinaria, Squill, Scopola, Stavesacre, Stramonium** and **Sumbul.** They are made with Alcohol or Diluted Alcohol, with the exception of **Lobelia, Sanguinaria** and **Squill;** their menstruum is Acetic Acid, a matter to be borne in mind when prescribing.

Gambir has been added to replace Catechu.

The great demand therapeutically for a **Gelatin** of standard purity has caused that substance to be made official.

A formula for **Glycerinated Gelatin** is given; it is used for suppositories when Oil of Theobroma is not desired or contra-indicated.

The **Dessicated Supra-Renal** and **Thyroid Glands** are the two new animal products, the virtues of which are well known.

Glycerite of the **Phosphates of Iron, Quinine** and **Strychnine** is used for the preparation of the Syrup of the Phosphates of Iron, Quinine and Strychnine.

Guaiacol has been admitted, also **Guaicol Carbonate,** known commonly as Duotal.

Hamamelis Bark is used in the preparation of Hamamelis Water.

Hexa-Methylen-Amina is the pharmacopaeial name for the well-known urinary antiseptic, sold on the market under the names of Urotropine, Formin, Cystogen, etc.

Homatropine Hydrobromide is now official, also **Hydrastine** and **Iodol,** an odorless Iodine preparation having the virtues of Iodoform, but none of its odor.

Kaolin is used for the preparation of Cataplasm of Kaolin.

A formula for **Liquor Antisepticus** is given to meet the demand for a preparation on the order of Listerine, etc.

Compound Solution of Cresol is similar to Lysol on the market, and is especially useful in obstetrical work.

Solution of Formaldehyde is recognized.

Compound Solution of Sodium Phosphate, each fluidrachm represent 60 grains of Sodium Phosphate.

Effervescent Magnesium Sulphate is an elegant preparation, the most fastidious can find no fault with this.

Malt is admitted for the preparation of Extract of Malt.

Manganese Hypophosite is especially useful in the anaemia of scrofula and chlorosis.

Methyl—Thionine Hydrochloride is Methylene Blue.

The **Oleates of Atropine, Cocaine** and **Quinine** have been admitted.

Granulated Opium, it is used in that form now for the Tinctures of Opium.

Paraffin of a standard purity is now official.

Pelletierine Tannate is the well-known taenicide.

Petrolatum Album is the White Vaseline and Cosmoline on the market.

Carbolic Acid is now known officially as Phenol, and as it is prescribed so often by volume **Liquefied Phenol** has been introduced.

Pilocarpine Nitrate has practically the same therapeutic property as the Hydrochloride.

Compound Laxative Pills bear close resemblance in therapeutic action to the Lapactic Pills.

Pills of Podophyllum, Belladonna and **Capsicum** have been made official; each pill contains ¼ grain of Resin of Podophyllum, ⅛ grain of Extract of Belladonna and ½ grain of Capsicum.

The pharmacopoeia has recognized the demand for an Acetanilide Mixture. **Compound Acetanilide Powder** is composed of Acetanalide grains 7, Caffeine 1 grain and Sodium Bicarbonate 2 grains.

Quinine Salicylate is now official.

Saw Palmetto gains entrance under the name of **Sabal.**

Safrolum is artificial Oil of Sassafras.

Scopola and **Scopolamine Hydrobromide** have been admitted; the latter is chemically identical with Hyoscine Hydrobromide.

Serum Anti-Diphthericum is the only Serum admitted; the United States Public Health and Marine Hospital Service established a standard strength.

Exsiccated Sodium Arsenate is used for the preparation of Solution of Sodium Arsenate.

The **Mono-Hydrated Sodium Carbonate** has taken the place of Sodium Carbonate and Exsiccated Sodium Carbonate of the 1890 Pharmacopoeia.

Sodium Citrate, Effervescent Sodium Phosphate and **Exsiccated Sodium Phosphate** are now official.

The demand for **Strontium Salicylate** has caused it to be recognized.

Strophanthin, the glucoside of Strophanthus, and **Strychnine Nitrate** have a place.

Sulphon-Ethyl-Methane (Trional) and **Sulphon-Methane** (Sulphonal) are well known.

There is an excellent formula for **Compound Syrup of Hydrophosphites;** each fluidrachm contains 1-128th of a grain of Strychnine.

Talc and **Purified Talc** are listed.

Aristol is known officially as **Thymol Iodide.**

Three new tinctures have been admitted, namely: **Compound Tincture of Gambir, Tinctures of Lemon Peel and Stramonium.**

Troches of Gamir replace those of Catechu.

Four new ointments are noticed: **Ointment of Boric Acid, Stramonium Ointment, Diluted Mercurial Ointment** and **Ointment of Zinc Stearate.**

Vanillin, obtained naturally from Vanilla or made synthetically, has a place.

Wine of Coca is now official.

Zinc Sulpho-Carbolate, under the title **Zinc Phenol-Sulphonate,** is admitted, also **Zinc Stearate.**

The Committee of Revision adopted the recommendations made at an international conference in 1902 in the City of Brussels to make all tinctures of potent drugs of a uniform strength of 10 per cent., **Tincture of Aconite** is therefore reduced from 35 per cent., **Tincture of Veratrum** from 40 per cent.; roughly stated, tinctures have been divided into two classes, potent tinctures 10 per cent., other tinctures 20 per cent.

The arsenical solutions have a standard of 1 per cent., while fluid extracts continue as heretofore, 1 cc., representing 1 gram of the drug.

Syrup of Ferrous Iodide has been reduced from 10 per cent. to 5 per cent., the dose must be increased accordingly.

The nomenclature of some drugs has been changed, notably **Arsenic Trioxide** for Arsenous Acid, **Chromium Trioxide** for Chromic Acid, **Phenol** for Carbolic Acid, etc.

We are particularly fortunate in having such a splendid Pharmacopoeia; it is a Pharmacopoeia of Pharmacopoeias; it is thoroughly up-to-date, and physicians will be well rewarded in studying its contents.

It is an undeniable fact that the most serious shortcomings of the profession in matters therapeutical might be largely eliminated were we to rely more fully upon references to this work. While it is true that the Pharmacopoeia provides no information directly concerning therapeutics, yet it contains very full information and of the most reliable character concerning materia medica, fundamental to therapeutics, in turn, the highest teachings of therapeutics constitute its basis as to preparations and dosage and as to a majority of the drugs treated.

CLARK COUNTY MEDICAL SOCIETY.

Regular meetings are held at Marshall, quarterly.

Membership 12.

Officers.

President .....Dr. Rowland
Vice-President .....Dr. Ryerson
Secretary-Treasurer .....L. J. Weir
Delegate .....Dr. Hall
Censors.....Drs. Hall, Prewett, H. W. Haslit
Committee on Program and Scientific work—Drs. Duncan, Bradley and L. J. Weir.

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The Clark County Medical Society met in regular sesion in the Court House at 2 p. m., October 12, 1905, President Rowland in the chair.

Members present: Bradley, Ryerson, Rowland, Smith, Duncan and L. J. Weir. Visitors: Dr. L. A. Burnsides and Dr. C. Barlow, Councilor for this district.

L. J. Weir presented a paper on **Surgery in the Country,** describing the simple though efficient preparation for operation in any home with heat, hot water and bichloride solution and arguing that few instruments are really needed; that the exact diagnosis can be arrived at by the general practitioner with the means now at his command, and that the country physician can and should do his own operating in most all cases.

The subject was discussed by all present. Broadly considered, that the general practitioner should do what surgery comes in his practice; that cases going away for operation or calling a stranger to operate appears to the people to show that the home physicians could not do the operating.

Burnsides stated that one must be posted in anatomy and cleanliness in order to practice medicine and do obstetrical and emergency practice, and knowing anatomy and surgical cleanliness, he can and should do other surgical operations.

Smith described some of his observations.

Ryerson thought medicine and surgery two separate fields of work, both being too large for one man to cultivate; that one physician in about six or eight in a community should do the surgery.

Duncan's views were like Ryerson's, and he had always found city surgeons were gentlemen, and that it was rather easy to send patients to them.

Barlow considered that only some of the physicians in a community should do the operating, or the main portion of it; that physicians should take a post-graduate course of

lectures every few years, and some of them should give special attention to surgery while there; that only too often, however, doctors do not receive enough money for their arduous work to do this; that in his county operations are done mostly by two local men, but others do operations when circumstances require it.

Rowland said in his way of looking at it surgeons were born, not made; that patients will object to a home man doing what they feel he could do but would rather a stranger would operate on them, and would rather go to an institution for operation, but he would be willing to have his cases operated on by other local men, as he does not wish to do much surgery, not being inclined that way; feels that he could do it, but does not wish to give the attention to it which it requires.

Weir closed the discussion.

New members: The rules of the Society were suspended and Dr. L. A. Burnsides was elected a member at once.

Dr. C. Barlow made an interesting talk, stating that the organization of the profession must be kept up; that every county must keep up its local society; that every legal physician should be a member, as all medical schools require the same studies almost that if a man will be a gentleman that is all that should be required.

Bradley asked how he would suggest to get the doctors in our county to attend the society. He thought the physicians of Marshall might give a banquet and send special invitations to all not in the habit of attending, and go after them in a way to get them interested.

Ryerson suggested that the public might be invited to attend a meeting and be given a paper of interest to them (on prevention of disease, for instance), by some local man, and get them to see that the medical society is a necessity and for their benefit, so they will require their doctor to attend, as they require their school teacher to attend teachers' meetings.

Pneumonia was chosen as a subject for next meeting, and Dr. Bradley was selected to prepare the paper.

DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month
Membership 62.

Officers.

President, Everett J. Brown.....Decatur
Vice-President, Ellen F. Grimes.....Decatur
Secretary-Treasurer, Benjamin Bachrach.....
..... Decatur
Board of Censors: S. E. McClelland, Lynn M. Barnes, Cass Chenoweth.

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Tuesday, September 26th, 1905, the regular monthly meeting of the Decatur Medical Society was held in the Decatur Club Rooms at 8 o'clock p. m.

The meeting was in honor of William Osler, the greatest living physician.

Dr. J. N. Randall read a paper on **The Life, Work and Influence of Dr. Osler,** which, from its thoroughness, received the complete approval of the society.

Dr. W. J. Chenoweth next read a paper, his subject being **Chloroforming Sexagenarii.** As the Doctor has practiced medicine for over fifty years his paper was doubly interesting and appreciated.

Dr. H. C. Jones completed the program by reading some **Selections from Osler.**

Some Selections From Osler.

Few men live lives of more devoted self-sacrifice than the family physician, but he may become so completely absorbed in work that leisure is unknown; he has scarce time to eat or sleep, and, as Dr. Drummond remarks in one of his poems, "He's the only man, I know, don't get no holiday." There is danger in this treadmill life lest he lose more than health and time and rest—his intellectual independence. More than most men he feels the tragedy of isolation—that inner isolation so well expressed in Matthew Arnold's line, "We mortal millions live **alone.**"

The circumstances of life would mould him into a masterful, self-confident, self-centered man, whose worst faults often partake of his best qualities. The peril is that should he cease to think for himself he becomes a mere automaton, doing a penny-in-the-slot business, which places him on a level with the chemist's clerk who can hand out specifics for every ill, from the "pip" to the pox. The salt of life for him is a judicious skepticism, not the coarse, crude form, but the sober sense of honest doubt expressed in the maxim of the sly old Sicilian, Epicharmus, "Be sober and distrustful; these are the sinews of the understanding." A great advantage, too, of a sceptical attitude of mind is, as Green, the historian, remarks, "One is never very surprised or angry to find that one's opponents are in the right." It may keep him from self-deception and from falling into that medical slumber into which so many drop, deep as the theological slumber so lashed by Erasmus, in which a man may write letters, debauch himself, get drunk, and even make money—a slumber so deep at times that no torpedo-touch can waken him.

It may keep the practitioner out of the clutches of the arch enemy of his professional independence—the pernicious literature of our camp followers, a literature increasing in bulk, in meretricious attractiveness, and in impudent audacity. To modern pharmacy we owe much, and to pharmaceutical methods we shall owe much more in the future, but the profession has no more insidious foe than the large borderland pharmaceutical houses. No longer an honored messmate, pharmacy in this form threatens to become a huge parasite, eating the vitals of the body medical. We all know only too well the bastard literature which floods the mail, every page of which illustrates the truth of the axiom, the greater the ignorance the greater the dogmatism. Much of it is advertisements of nostrums foisted on the profession by men who trade on the innocent credulity of the regular physician, quite as much as any quack preys on the gullible public. Even the most respecta-

ble houses are not free from this sin of arrogance and ignorant dogmatism in their literature. A still more dangerous enemy to the mental virility of the general practitioner is the "drummer" of the drug house. While many of them are good, sensible fellows, there are others, voluble as Cassio, impudent as Autolycus and senseless as Caliban, who will tell you glibly the virtues of extract of the coccygeal gland in promoting pineal metabolism, and are ready to express the most emphatic opinions on questions about which the greatest masters of our art are doubtful. No class of men with which we have to deal illustrates more fully that greatest of ignorance—the ignorance which is the conceit that a man knows what he does not know; but the enthralment of the practitioner by the manufacturing chemist and the revival of a pseudoscientific polypharmacy are too large questions to be dealt with at the end of an address.

In no profession does culture count for so much as in medicine, and no man needs it more than the general practitioner, working among all sorts and conditions of men, many of whom are influenced quite as much by his general ability, which they can appreciate, as by his learning, of which they have no measure. The day has passed for the "practice of physic" to be like Mr. Robert Levet, Dr. Johnson's friend, "Obscurely wise and coarsely kind." The wider and freer a man's general education the better practitioner is he likely to be, particularly among the higher classes to whom the reassurance and sympathy of a cultivated gentleman of the type of Eryximachus, may mean much more than pills and potions. But what of the men of the type of Mr. Robert Levet, or "Ole Docteur Fiset," whose virtues walk a narrow round, the men who do the hard general practices in the poorer districts of the large cities, in the factory towns and in the widely scattered rough agricultural regions—what, I hear you say, has culture to do with them? Everything! It is the bichloride which may prevent the infection and may keep a man sweet and whole amid the most debasing surroundings. Of very little direct value to him in his practice—though the poor have a pretty keen appreciation of a gentleman—it may serve to prevent the degeneration so apt to overtake the overworked practitioner, whose nature is only too prone to be subdued like the dyer's hand to what it works in.

Whether a man wil treat his professional brethren in a gentlemanly way or in a narrow illiberal spirit is partly a matter of temperament, partly a matter of training. If we had only to deal with one another the difficulties would be slight, but it must be confessed that the practice of medicine among our fellow creatures is often a testy and choleric business. When one has done his best or when a mistake has arisen through a lack of special knowledge, but more particularly when, as so often happens, our heart's best sympathies have been engaged, to be misunderstood by the patient and his friends, to have evil motives imputed and to be maligned, is too much for human endurance and justifies a righteous indignation. Women, our greatest friends and our greatest enemies, are the chief sinners, and while one will exhaust the resources of the language in describing our mistakes and weaknesses, another will laud her pet doctor so indiscriminately that all others come under a sort of oblique condemnation. "Foeminae sunt medicorum tubae" is an old and true saying. It is hard to say whether as a whole we do not suffer just as much from the indiscriminate praise. But against this evil we are helpless. Far otherwise, when we do not let the heard word die; not to listen is best, though that is not always possible, but silence is always possible, than which he have no better weapon in our armory against evil-speaking, lying and slandering. The bitterness is when the tale is believed and a brother's good name is involved. Then begins the worst form of ill-treatment that the practitioner receives—that at his own hands! He allows the demon of resentment to take possession of his soul, when five minutes' frank conversation might have gained a brother. In a small or a large community what more joyful than to see the brethren dwelling together in unity. The bitterness, the rancour, the personal hostility which many of us remember in our younger days, has been largely replaced by a better feeling and while the golden rule is not always as it should be, our code of ethics, we have certainly become more charitable the one towards the other.

Never has the outlook for the profesion been brighter. Everywhere the physician is better trained and better equipped than he was twenty-five years ago. Disease is understood more thoroughly, studied more carefully and treated more skillfully. The average sum of human suffering has been reduced in a way to make the angels rejoice. Diseases familiar to our fathers and grandfathers have disappeared, the death rate from others is falling to the vanishing point, and public health measures have lessened the sorrows and brightened the lives of millions. The vagaries and whims, lay and medical, may neither have diminished in number nor lessened in their capacity to distress the faint-hearted who do not appreciate that to the end of time people must imagine vain things, but they are dwarfed by comparison with the colossal advance of the past fifty years.

In too many towns and smaller communities miserable factions prevail, and bickerings and jealousies mar the dignity and usefulness of the profession. So far as my observation goes, the fault lies with the older men. The young fellow, if handled aright and made to feel that he is welcomed and not regarded as an intruder to be shunned, is only too ready to hold out the hand of fellowship. The society comes in here as professional cement. The meetings in a friendly social way lead to a free and open discussion of differences in a spirit that refuses to recognize differences of opinion on the nonessentials of life as a cause of personal animosity or ill-feeling. An attitude of mind habitually friendly, more particularly to the young man, even though you feel him to be the David to

whom your kingdom may fall, a little of the old-fashioned courtesy which makes a man shrink from wounding the feelings of a brother practitioner—in honor prefering one another; with such a spirit abroad in the society and among its older men, there is no room for envy, hatred, malice or any uncharitableness. It is the confounded tales of patients that so often set us by the ears, but if a man makes it a rule never under any circumstances to believe a story told by a patient to the detriment of a fellow practitioner—even if he knows it to be true!—though the measure he he will have the satisfaction of knowing that he has closed the ears of his soul to ninety-nine lies, and to have missed the hundredth truth will not hurt him Most of the qarrels of doctors are about non-essential, miserable trifles and annoyances—the pinpricks of practice—which would sometimes try the patience of Job, but the good-fellowship and friendly intercourse of the medical society should reduce these to a minimum.

The well-conducted medical society should represent a clearing house, in which every physician of the district would receive his intellectual rating, and in which he could find out his professional assets and liabilities. We doctors do not "take stock" often enough, and are very apt to carry on our shelves stale, out-of-date goods. The society helps to keep a man "up to the times," and enables him to refurnish his mental shop with the latest wares. Rightly used, it may be a touchstone to which he can bring his experiences to the test and save him from falling into the rut of a few sequences. It keeps his mind open and receptive and counteracts that tendency to premature senility which is apt to overtake a man who lives in a routine. Upon one or two specially valuable features of the society I may dwell for a moment or two.

For the crass therapeutic credulity, so widespread today, and upon which our manufacturing chemists wax fat, there is no more potent antidote than the healthy scepticism bred of long study in the post-mortem room. The new pathology, so fascinating and so time-absorbing, tends, I fear, to grow away from the old morbid anatomy, a training in which is of such incalculable advantage to the physician. It is a subject which one must learn in the medical school, but the time assigned is rarely sufficient to give the student a proper grasp of the subject. The younger men should be encouraged to make the exhibition of specimens part of the routine work of each meeting. Something may be learned from the most ordinary case if it is presented with the special object of illustrating the relation of disturbed function to altered structure. Of still greater educational value is the clinical side of the society. No meeting should be arranged without the presentation of patients, particularly those illustrating rare and unusual forms of disease. Many diseases of the skin and of the joints, a host of nervous affections, and many of the more remarkable if general maladies, as myxoedema, cretinism achondroplasia, etc., are seen so rarely and yet are so distinctive, requiring only to be seen to be recognized, that it is incumbent upon members to use the society to show such cases. A clinical evening devoted to these rarer affections is of very great help in diffusing valuable knowledge. The importance of a clinical demonstration was never better illustrated than at the International Congress in London in 1881, when Dr. Ord and others presented one morning at the Clinical Museum a group of cases of myxoedema. There were men from all parts of the world, and the general recognition of the disease outside of England dates from that meeting. The physiognomy of disease is learned slowly, and yet there are a great many affections which cannot be recognized, sometimes at a glance, more often by careful inspection, without any history. The society should be a school in which the scholars teach each other, and there is no better way than by the demonstration of the more unusual cases that happen to fall in your way. I have gone over my history cards of private patients brought or sent to me by last-year physicians, in which the disease was not diagnosed through recognizable de-visu. Gout, spondylitis deformans, preataxic tabes (myosis, ptosis, etc.), Graves' disease, Parkinson's disease, anorexia nervosa, Raynaud's disease, pernicious anaemia, spactic diplegia, spastic hemiplegia and cyanosis of chronic emphysema were on the list. Some of these are rare diseases, but at an active society in the course of a few years every one of them could be demonstrated.

While medicine is to be your vocation, or calling, see to it that you have also an avocation—some intellectual pastime which may serve to keep you in touch with the world of art, of science, or of letters. Begin at once the cultivation of some interest other than the purely professional. The difficulty is in a selection and the choice will be different according to your tastes and training. No matter what it is—but have an outside hobby. For the hard-working medical student it is perhaps easiest to keep up an interest in literature. Let each subject in your year's work have a corresponding outside author. When tired of anatomy refresh your mind with Oliver Wendell Holmes; after a worrying subject in physiology, turn to the great idealists, to Shelley or Keats for consolation; when chemistry distresses the soul, seek peace in the great pacifier, Shakespeare; and when the complications of pharmacology are unbearable, ten minutes with Montaigne will lighten the burden. To the writings of one old physician I can urge your closest attention. There have been, and, happily, there are still in our ranks notable illustrations of the intimate relations between medicine and literature, but in the group of literary physicians Sir Thomas Browne stands pre-eminent. The Religio Medici, one of the great English classics, should be in the hands—in the hearts, too—of every medical student. As I am on the confessional today, I may tell you that no book has had so enduring an influence on my life. I was introduced to it by my first teacher, the Rev. W. A. Johnson, Warden and Founder of the

Trinity College School and I can recall the delight with which I first read its quaint and charming pages. It was one of the strong influences which turned my thoughts towards medicine as a profession, and my most treasured copy—the second book I ever bought—has been a constant companion for thirty-one years—comes viae vitaeque. Trite but true, is the comment of Seneca, "If you are fond of books you will escape the ennui of life, you will neither sigh for evening, disgusted with the occupations of the day—nor will you live dissatisfied with yourself or unprofitable to others."

The New School of Medicine.

The nineteenth century has witnessed a revolution in the treatment of disease, and the growth of a new school of medicine. The old schools—regular and homeopathic—put their trust in drugs, to give which was the alpha and the omega of their practice. For every symptom there were a score or more of medicines—vile, nauseous compounds in one case, bland, harmless dilutions in the other. The characteristic of the new school is firm faith in a few good, well-tried drugs, little or none in the great mass of medicine still in general use. Imperative drugging—the ordering of medicine in any and every malady—is no longer regarded as the chief function of the doctor. Naturally, when the entire conception of the disease was changed, there came a corresponding change in our therapeutics. In no respect is this more strikingly shown than in our present treatment of fever—say, of the common typhoid fever. During the first quarter of a century the patients were bled, blistered, purged and vomited, and dosed with mercury, antimony and other compounds to meet special symptoms. During the second quarter the same, with variations in different countries. After 1850 bleeding became less frequent, and the experiments of the Paris and Vienna schools began to shake the belief in the control of fever by drugs. During the last quarter sensible doctors have reached the conclusion that typhoid fever is not a disease to be treated with medicines, but that in a large proportion of cases, diet, nursing and bathing meet the indications. There is active, systematic, careful, watchful treatment, but not with drugs. The public has not yet been fully educated to this point, and medicines have sometimes to be ordered for the sake of their friends, and it must be confessed that there are still in the ranks of the antiques who would insist on a dose of some kind every few hours.

The battle against poly-pharmacy, or the use of a large number of drugs (of the action of which we know little, yet we put them into bodies of the action of which we know less), has not been fought to a finish. There have been two contributing factors on the side of progress—the remarkable growth of the sceptical spirit fostered by Paris Vienna and Boston physicians, and, above all, the valuable lesson of homeopathy, the infinitesimals of which certainly could not do harm, and quite as certainly could not do good; yet nobody has ever claimed that the mortality among homeopathic practitioners was greater than among those of the regular school. A new school of practitioners has arisen which cares nothing for homeopathy and less for so-called allopathy. It seeks to study, rationally and scientifically, the action of drugs, old and new. It is more concerned that a physician shall know how to apply the few great medicines which all have to use, such as quinine, iron, mercury, iodide of potasium, opium and digitalis, than that he should employ a multiplicity of remedies the action of which is extremely doubtful.

One of the most striking characteristics of the modern treatment of disease is the return to what used to be called the natural methods—diet, exercise, bathing and massage. There probably never has been a period in the history of the profession when the value of diet in the prevention and the cure of disease was more fully recognized. Dyspepsia, the besetting malady of this country, is largely due to improper diet, imperfectly prepared and too hastily eaten. One of the great lessons to be learned is that the preservation of health depends in great part upon food well cooked and carefully eaten. A common cause of ruined digestion, particularly in young girls, is the eating of sweets between meals and the drinking of the abominations dispensed in the chemists' shops in the form of ice-cream sodas, etc. Another frequent cause of ruined digestion in business men is the hurried meal at the lunch counter. And a third factor, most important of all, illustrates the old maxim that more people are killed by over-eating and drinking than by the sword. Sensible people have begun to realize that alcoholic excesses lead inevitably to impaired health. A man may take four or five drinks of whiskey a day, or even more, and thinks perhaps that he transacts his business better with that amount of stimulant; but it only too frequently happens that early in the fifth decade, just as business or political success is assured, Bacchus hands in heavy bills for payment, in the form of serious disease of the arteries or of the liver, or there is a general break-down. With the introduction of light beer there has been not only less intemperance, but a reduction in the number of cases of organic disease of the heart liver and stomach caused by alcohol. While temperance in the matter of alcoholic drinks is becoming a characteristic of Americans, intemperance in the quantity of food taken is almost the rule. Adults eat far too much, and physicians are beginning to recognize that the early degenerations, particularly of the arteries and of the kidneys, leading to Bright's disease, which were formerly attributed to alcohol, are due in large part to too much food.

A third noteworthy feature in modern treatment has been a return to psychical methods of cure, in which **faith in something is suggested to the patient.** After all, faith is the great lever of life. Without it, man can do nothing; with it, even with a fragment, as a grain of mustard-seed, all things are possible to him. Faith in us, faith in our drugs and methods, is the great stock in trade of the profession. In one pan of the balance, put the pharmacopeias of the world, all the editions from Dioscordides to the last

issue of the United States Dispensatory; heap them on the scales as did Euripides his books in the celebrated contest in the "Frogs;" in the other put the simple faith with which from the days of the Pharaohs until now the children of men have swallowed the mixtures these works describe, and the bulky tomes will kick the beam. It is the aurum potabile, the touchstone of success in medicine. As Galen says, confidence and hope do more good than physic—"he cures most in whom most are confident."

While we doctors often overlook or are ignorant of our own faith cures, we are just a wee bit too sensitive about those performed outside our ranks. We have never had, and cannot expect to have, a monopoly in this panacea, which is open to all, free as the sun, and which may make of every one in certain cases, as was the Lacedemonian of Homer's day, "a good physician out of Nature's grace." Faith in the god or in the saints cures one, faith in little pills another, hypnotic suggestion a third, faith in a plain common doctor a fourth. In all ages the prayer of faith has healed the sick, and the mental attitude of the suppliant seems to be of more consequence than the powers to which the prayer is addressed. The cures in the temples of Aesculapius, the miracles of the saints, the remarkable cures of those noble men, the Jesuit missionaries, in this country, the modern miracles at Lourdes and at St. Anne de Beaupre in Quebec, and the wonder-workings of the so-called Christian Scientists, are often genuine, and must be considered in discussing the foundations of therapeutics. We physicians use the same power every day. If a poor lass, paralyzed apparently, helpless, bed-ridden for years, comes to me, having worn out in mind, body and estate a devoted family; if she in a few weeks or less, by faith in me, and faith alone, takes up her bed and walks, the saints of old could not have done more, St. Anne and many others can scarcely today do less. We enjoy, I say, no monopoly in the faith business. The faith with which we work, the faith, indeed, which is available today in everyday life, has its limitations. It will not raise the dead; it will not put in a new eye in place of a bad one (as I did to an Iroquois Indian boy for one of the Jesuit fathers), nor will it cure cancer or pneumonia, or knit a bone; but in spite of these nineteenth-century restrictions, such as we find it, faith is a most precious commodity, without which we should be very badly off.

One mode of faith-healing in modern days, which passes under the remarkable name of Christian Science, is probably nothing more than mental suggestion under another name. "The patient is told to be calm, and is assured that all will go well: that he must try to aid the healer by believing that what is told him is true. The healer then, quietly but firmly, asserts and reiterates that there is no pain, no suffering, that it is disappearing, that relief will come, that the patient is getting well." This is precisely the method which Bernheim used to use with such success with his hypnotic patients at Nancy, iterating and reiterating, in a most wearisome way, that the disease would disappear and the patient would feel better. As has been pointed out by a recent writer (Dr. Harry Marshall), the chief basis for the growth of Christian Science is that which underlies every popular fallacy: "Oliver Wendell Holmes outlined very clearly the factors concerned, showing (a) how easily abundant facts can be collected to prove anything whatsoever; (b) how insufficient 'exalted wisdom, immaculate honesty, and vast general acquirements' are to prevent an individual from having the most primitive ideas upon subjects out of his line of thought; and, finally, demonstrating 'the boundless credulity and excitability of mankind upon subjects connected with medicine.'"

And in closing, may I say a few words to the younger practitioners in the audience whose activities will wax nor wane with the growing years of the century which opens so auspiciously for this school, for this city, and for our country. You enter a noble heritage, made so by no efforts of your own, but by the generations of men who have unselfishly sought to do the best they could for suffering mankind. Much has been done, much remains to do; a way has been opened, and to the possibilities in the scientific development of medicine there seems to be no limit. Except in its application, as general practitioners, you will not have much to do with this. Yours is a higher and more sacred duty. Think not to light a light to shine before men that they may see your good works; contrariwise, you belong to the great army of quiet workers, physicians and priests, sisters and nurses, all over the world, the members of which strive not neither do they cry, nor are their voices heard in the streets, but to them is given the ministry of consolation in sorrow need and sickness.

DEWITT COUNTY MEDICAL SOCIETY.

Regular meetings are held in Clinton on the second Tuesday of January, April, July and October. Membership 25.

Officers.

President. .....J. M. Wilcox, Clinton
Vice-President.....G. M. Robertson, Wapella
Secretary and Treasurer, A. E. Campbell, Clinton
Delegate to State Society.....J. H. Tyler
Alternate.....Geo. S. Edmonson

Censors—W. E. Chalstran, Lane, 1 year; W. E. McClellan, Beason, 2 years; G. G. DowJalt, Clinton, 3 years.

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The Dewitt County Medical Society met in quarterly session in the County Court Room, October 10, 10 a. m., President J. M. Wilcox in the chair.

Dr. Edmonson reported two cases of jaundice in children where succinate of sodium was used with success.

Dr. Campbell reported a case of spasmodic cough in a woman pregnant four months. When the uterus was emptied the cough subsided. Ten months after he was called again, woman was pregnant seven months and apparently completely blind, delay was advised but in a few days the spasmodic cough developed and fearing general convulsions labor was induced, the

cough subsiding but the blindness persisting In the course of a few weeks a competent oculist was consulted, who was understood to say that nothing could be done for her. After moping around in total darkness for six or eight weeks the sight returned as suddenly as it disappeared The question, Was this hysterical blindness?

Dr. Wilcox reported the removal of a small tumor from the submaxillary gland, which proved to be a fibroid.

Dr. G. Dowdall read the report of a case o a laborer, a bridge builder who was injured in the pelvic region and lower abdomen by a portion of the structure falling upon him. Blood was found oozing from the urethra—swelling and tenderness in the perineum and an exceedingly painful area over the first lumber vertebra and motor paralysis of both legs with reflexes absent. Six hours after admission, six ounces of blood was drawn from bladder, later attempts to enter bladder failed and a median incision was made in the perineum, but on account o the displacement of the bladder and laceration of the deeper structures and as the patient was behaving badly it was found impossible to proceed. Consequently a large aspirating needle was inserted into the opening and pushed up into the bladder, the plunger withdrawn and a rubber tube fastened to the retained portion of the aspirator and the other end placed in a bottle under the bed. An incision was also made in the buttocks to drain the iliac fascia in the pelvic cavity, later wound discharged pus and blood, 10 days after the accident delirium and convulsions. Fifty-four days after injury he is able to draw up both legs, has some control over bladder and bowels, slight lumbar pain, and his general condition is slowly improving.

The Secretary read a letter from our State Secretary calling on all component societies to remit the amount due; the Secretary also stated that there were many who had not paid county dues for years. A motion was sustained instructing the Secretary to send monthly statements to all in arrears and report at our January meeting.

The Society was reminded that next year is the fiftieth anniversary of the organization and we still have two charter members, Dr. John Wright, Rosebury, Oregon, and Dr. J. H. Tyler. It was unanimously agreed that both be made honorary members of our Society, and in order that the anniversary may be properly observed the officers and censors were appointed a committee to make the necessary arrangements. A discussion arose over the county pauper practice and the President was authorized to appoint a committee to co-operate with the Board of Supervisors in the hope that the matter may be satisfactorily adjusted.

Society adjourned to the second Tuesday in January, 1906. A. E. Campbell, Sec'y.

FULTON COUNTY MEDICAL SOCIETY.

Regular meetings are held the first Tuesday of of May, July, October and December.
Membership 43.

Officers.

President, T. R. Plummer.....Farmington
First Vice-President, L. R. Chapin.....Canton
Second Vice-President, G. R. Blackstone....
.....Table Grove
Secretary-Treasurer, D. S. Ray.....Cuba
Necrologist, P. H. Stoops.....Ipava
Membership Committee, J. E. Sutton....Canton
Board of Censors, Seymour Nelson.....Bryant
Representative to State Meeting, F. M. Harrison
..... Bryant
Alternate, D. S. Ray .....

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The eighth annual meeting of the Fulton County Medical Society met in the parlors of the Churchill House, in Canton, and was called to order by Vice President S. A. Oren, of Lewistown, at 1 o'clock p. m.

Minutes of previous meeting read and approved.

Secretary-Treasurer's report read and accepted.

Shallenberger, of the Board of Censors, reported that nothing in the way of complaints had been made to them. There had been some agitation along the line of improper advertising, resulting in quite an improvement in this direction. He called attention to the "contract business" that was being followed by some of the members of this Society, and advised greater effort to eradicate this evil.

Application from P. B. Goodwin, of Summum recommended by Drs. Oren and Stoops, also application from W. C. Mitchell, of Farmington, recommended by Reagan and Robb, were referred to the Committee on Membership.

Committee favorably reported on the application of Dr. J. P. Nelson, of Fiatt, on the ballot he was elected to membership.

Officers were elected as above.

Shallenberger and Robb moved that Harrison attend the State Meeting. Carried.

A letter from a committee of Chicago physicians, inviting this Society to send a representative to a banquet to be given Dr. Senn November 11, was read and on motion of Shallenberger the Secretary was instructed to appoint a representative.

Shallenberger and Stoops moved the adoption of the resolution presented at the previous meeting, striking the word "regular" from Article 5 Section 1 of the Constitution.

Harrison and Rogers moved to table the motion until our next meeting.

Carried by President casting a deciding vote

Dr. Rogers presented a paper on **Empyema** that was freely discussed by all present.

Dr. Lemaster, of Bushnell, gave reports of several interesting cases, with microscopical exhibition of specimens.

Chapin and Shallenberger moved that the Secretary settle the dinner bill for today.

Stoops and Robb moved a vote of thanks to Dr. Lemaster. Carried.

The following members were present: Seymour Nelson and F. M. Harrison, of Bryant; S. A. Oren, of Lewistown; P. H. Stoops, of Ipava; F. C. Robb, of Farmington; H. H. Rogers and D. S. Ray, of Cuba; J. E. Sutton, T. C. Hayes, E. W. Reagan, P. S. Scholes, L. R. Chapin, W. E Shallberger and J. E. Coleman, of Canton.

The visitors were: Drs. Lemasters, of Bushnell, and W. C. Mitchell, of Farmington.

The following bills were allowed and ordered paid: Cuba Journal, printing, $3.00; P. S. Scholes, expense to State Meeting, $9.80; D. S. Ray, postage, $5.15; Churchill House, six dinners, $3.00; making a total of $20.95.

County dues were collected from the following: R. Ewan, $2.00; P. H. Stoops, $1.00; J. M. Nellis, $7.00; L. R. Chapin, $1.00; J. E. Sutton, $1.00; F. M. Harrison, $1.00; W. E. Shallenberger, $1.00; Seymour Nelson, $2.00; F. C. Robb, $1.00; S. A. Oren, $2.00; S. L. Oren, $2.00; P. S. Scholes, $1.00; making a total of $22.00 collected for county dues.

The following paid each $1.50 State dues: P. H. Stoops, J. E. Sutton, W. E. Shallenberger, Seymour Nelson, F. C. Robb, S. A. Oren, D. S. Ray, P. S. Scholes.

D. S. Ray, Secretary.

JERSEY COUNTY MEDICAL SOCIETY.

Officers.

President, J. E. Williams.....Jerseyville
Secretary-Treasurer, A. K. VanHorne, Jerseyville

At the October meeting of the Jersey County Medical Society, members present: Dr. J. S. Williams in the chair, Drs. Barnett, Waggoner, Giberson, J. W. Enos, Bohanan and Van Horne.

Dr. A. A. Barnett read a paper on **Typhoid Fever,** which was discussed at length by all the doctors present.

A communication was received from Drs. Evans, Billings, Murphy, Baum, Dougherty and Andrews, of Chicago, asking that a delegate be appointed to attend the banquet tendered by the medical profession to Nicholas Senn, M. D., on November 11, 1905.

President Williams appointed Drs. A. K. Van Horne and Russel Bohanan.

Drs. O. O. Giberson and L. T. Waggoner paid dues, $1.50 each to the State Medical Society.

On motion Society adjourned to first Wednesday in November.

A. K. Van Horne, Secretary.

KENDALL COUNTY MEDICAL SOCIETY.

Meetings are held the second Tuesday of May and October at Yorkville.

Officers.

President, T. B. Drew.....Oswego
Vive-President, W. E. Kitler.....Oswego
Secretary-Treasurer, R. A. McClelland.... ..... Yorkville
Delegate to State Meeting, R. A. McClelland ..... Yorkville
Alternate, W. E. Kitler.....Oswego

Board of Censors....Drs. Frazier, Lane, Dryden
Program Committee..Livermore, Lord, Bennett

The annual meeting of the Kendall County Medical Society was held in the parlor of the Hotel Nading, Tuesday evening, October 3. The following members were present: F. R. Frazier, President; Drs. Cook, Drew, Dryden & McClelland; also our worthy Councilor, W. O. Ensign, of Rutland, who came here to assist the Secretary in securing members of the profession who had failed to join the Society, all of which was accomplished. The minutes of the last meeting were read and approved, and the application of Drs. Lord and Bennitt, of Plano, also Dr. R. N. Lane, of Lisbon, Ill., were received and referred to Board of Censors. On recommendation to membership the Society voted to accept them. It was hoped this meeting would be favored with a good program, but the committee of arrangements utterly failed to do its duty, hence there were no papers, or other speakers procured.

The report of the Secretary-Treasurer was then presented. The election of officers was next taken up, with the results as above. The time of meeting was changed to afternoon in place of evening.

Dr. W. M. Hanna, ex-President of this Society, having removed from this county to Aurora, Ill., has decided to retire from practice, and withdraws from the Society.

There have united with the Society this year six new members; withdrawn, 2; physicians in the county not members, 2; number of members who have paid the State dues, 13; total membership, 15.

Dr. W. O. Ensign was invited to address the meeting, which he did in his very pleasing way. The object of county organization was fully explained, and intention of the State Society, all of which was fully appreciated, and a vote of thanks extended the doctor, with a wish that he visit our Society often.

LOGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly. Membership 14.

Officers.

President, Markell Lee.....Atlanta
First Vice-President, C. Rembe.....Lincoln
Second Vice-President, J. H. Butler..Hartsburg
Secretary, H. S. Oyler.....Lincoln
Treasurer, C. C. Montgomery.....Lincoln

The Logan County Medical Society held its regular bi-monthly meeting in the City Council Chambers of City Hall, Lincoln, October 19, 1905, at 2:30 p. m.

The following applications for membership were received and favorably acted upon and received into full membership:

B. F. Stults, M. D., New Holland.
F. M. Hagans, M. D., Lincoln.
W. A. Koch, M. D., Middletown.
E. R. VanMeter, M. D., Lincoln.
L. M. Perry, M. D, Broadwell.

The resolution offered at last meeting condemning all advertising professional criticisms of brother practitioners, all forms of contract practice with lodge, insurance and society organizations which constitutes jus cause for re-

provement, suspension, or expulsion, was reread and adopted by the unanimous vote of the Society.

A resolution was entered for final action at next meeting to change the entrance fee from $1.00 to $1.50, and the annual dues from 50 cents to $1.00.

Dr. Carl Rembe, of Lincoln, read a very interesting and instructive paper on **Fractures of the Femur.** The paper was based upon the records of some unwritten cases occurring in his practice, demonstrating the application of the ambulatory and Hodgens splints. The paper was well received, and after the discussion the Society gave Dr. Rembe a vote of thanks for his effort.

The Society then adjourned till December 21, 1905, when there will be a joint meeting with the Logan County Dental Society.

MACOUPIN COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually the third Tuesday of April and October. Membership 40.

Officers.

President ..... S. A. Huffman, Chesterfield
Vice President ..... E. A. Bleuler, Carlinville
Secretary-Treas....J. Palmer Matthews, Carlinville

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The Macoupin County Medical Society met in the parlors of the Mercantile Club of Virden at 10:30 o'clock a. m., with Dr. E. A. Bleuler in the chair.

The following members were present: Drs. E. A. Blueler, S. H. Carr, J. M. Barcus, J. S. Collins and J. Palmer Matthews from Carlinville; Drs. Farmer, Shriver, Allen, Lockwood and Morgan from Virden; Dr. D. A. Morgan, Nilwood; Drs. Hill, Vanwormer, Mitchell, Conway and Simmons from Girard; Drs. English, King and Hobson from Gillespie, Dr. Pattison from Benld, Dr. Bell, Thayer; A. T. Bartlett, Jacksonville; Willard Bartlett, St. Louis; R. D. Berry and G. N. Kreider, Springfield; Dr. Ben Hudson, Palmyra — twenty-six in all.

The minutes of the previous meeting were read and approved.

The Treasurer reported $1.75 in the treasury. The following named gentlemen were proposed for membership, and after due deliberation of the committee the Treasurer cast a ballot for them and they were declared elected: Dr. E. B. Hobson, Rush, 1867; J. N. English, Mo. Med., 1893; C. D. King, St. Louis U., 1900; H. A. Pattison, Chicago Homeop., 1904; M. H. Farmer, U. of Nebr., 1885; T. W. Morgan, Rush, 1900; D. A. Morgan, Barnes', 1905.

Signed, S. H. Carr, E. K. Lockwood and C. A. Allen, Censors.

The Committee on Program reported Gillespie as the next place of meeting.

Dr. King of Gillespie volunteered a paper.

The program is to be filled later by the Secretary.

Dr. Willard Bartlett delivered an excellent paper on "What I Have Learned from Surgery of the Stomach." Dr. Bartlett's paper was on motion received and placed on the minutes.

Dr. M. H. Farmer reported a case of tabes dorsalis. These papers were discussed by all.

Dr. E. R. Motley reported a boy 4 years old who had frequent fractures of the lower extremities. Osteo-malacia is a trophic neurosis in this case, involving the crural nerve and causing atrophy of the muscles and brittleness of the bones enervated by it from the spinal cord.

Dr. Lockwood reported a case of lues with a gumma on the elbow, which was treated without effect by iodide of potassium. The X-ray was causing improvement in the case.

The following amendment to the by-laws was made unanimously:

Section XIV to the by-laws.—It shall be the duty of the Secretary-Treasurer to collect the annual dues assessed by the State Society at its May meeting. The dues shall be paid at our April meeting. When the fees cannot be collected the member shall be dropped.

Dr. Kreider asked the Society to consider the adoption of a plan of insurance against malpractice to be run on an assessment plan of $1 a year per member.

A vote of thanks was extended to Vice President R. D. Berry and Dr. Kreider of Sangaman County Society and Dr. Willard Bartlett of the St. Louis County Society for their presence and good will on this occasion.

Drs. Berry and Kreider extended an invitation to the annual banquet of their Society in November at Springfield, which was received with pleasure by the Society.

The Society then adjourned to meet at Gillespie on the third Tuesday in April, 1906.

J. Palmer Matthews.

MORGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Jacksonville the second Thursday of each month.
Membership 12

Officers.

President.....J. W. Hairgrove, Jacksonville
Vice President..Josephine Milligan, Jacksonville
Secretary-Treasurer....D. W. Reid, Jacksonville

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The regular monthly meeting of the Morgan County Medical Society was held at the Library, October 12. By invitation the teachers of the public schools were in attendance and took part in the program. The program consisted of subjects of mutual interest to doctors and teachers. There were present seventeen members and forty-five public school teachers.

Prof. W. A. Furr, Superintendent of Jacksonville public schools, gave an address on **The Relation Between Physical Defects and Class-Room Work in School Children.** He said that the statistics taken in the Chicago schools from the examination of large numbers of children showed that a large per cent. of the children were defective in hearing. In the age from six to nine the percentage of deafness increases; from the age of nine to fourteen the percentage of deafness decreases, and from that on to puberty it remains about the same. The speaker drew some interesting lessons from these statistics and showed the cause of this increase in the first years of school life and dwelt upon the

effect of deafness on school work. He showed that an otherwise bright pupil might fall behind in his work from the fact that he did not hear all that was said by the teacher and other pupils, and might even fail to make his grade, when the fault was an oversight in the teacher in not discovering this defect in the child. With regard to defective eyesight he showed by statistics taken from the same source that on entering school at six years of age about one-third of the children have defective eyesight; that from the age of six to nine this percentage of defection increases. From the age of ten to 14 it slightly decreases and thereafter remains about the same. As with the subject of deafness, the speaker showed the relation of this imperfection to the class-room work of the child and the necessity of the teacher being on the alert to discover such imperfection.

Dr. Pitner considered the subject of **Contagious Diseases Among School Children.** He spoke of the former ravages of small-pox wherever masses of people were congregated, and asserted that our present school system as it exists today would be impossible without the discovery and practice of vaccination. He said that small-pox was but a shadow of what it used to be, and that the mortality of diphtheria was only about one-third of what it was ten years ago, due principally to the use of antitoxin. He noted some of the principal points in the differential diagnosis of scarlet fever and other somewhat similar diseases. As for tuberculosis it was now considered a contagious disease, but the matter of quarantine had not been systematized, as with other contagious diseases.

Dr. Baxter opened the discussion on Dr. Pitner's paper. As Health Warden of the city of Jacksonville Dr. Baxter showed the legal relation of the public to contagious diseases. He spoke briefly on the diagnosis of the different contagious diseases among school children, and more at length of the necessity for quarantine, the laws of quarantine and the methods in use for disinfecting.

Dr. Gailey read a paper on **The Eyes of the School Children,** emphasizing the necessity of

1—As soon as practicable after child's entrance to school the teacher should determine the state of vision, and should it be defective, advise the parent of the fact, and of the necessity for professional advice.

2—An abundance of light in the schoolroom, admitted from the left side.

3—Seat and desk should be adjustable to individual occupying it, both as to size and height, the desk close enough to child to insure upright position.

4—Text books should be of good paper, with clear, bold-faced type.

5—Children with weak eyes and poor health should be advanced more slowly by having an adjustable schedule.

6—Children should be instructed as far as possible orally, and by blackboard and chart.

7—After acute infectious diseases there is much danger to eyes in starting child back to school too soon.

8—Written examinations, monthly and final, should be abolished entirely.

Dr. A. L. Adams in opening the discussion said: "School hygiene affects individuals, and is also a problem of education and preventive medicine. Among the evils of faulty school hygiene may be mentioned defective heating and ventilation, overcrowding, the inhalation of irritating dust and bacteria, especially the germs of tuberculosis. Eye-strain is a very important factor in school life, and of very frequent occurrence, as shown by the statistics of examinations made of 36,095 school children in Cleveland, Ohio, among whom 20 per cent. were found to have defective vision. In Indianapolis out of 25,696 examined there were 8,166, or 32 per cent., who suffered from eye-strain. A part of these only had myopia, which develops often from hyperopia and is in reality a diseased condition of the eye ball, which is liable to increase in amount. This change is brought about through the use of faulty seats and desks, poor ventilation and light and lowered vitality.

"Another matter of importance to schol children is the question of imperfect hearing. The most frequent cause of defective hearing is the presence of adenoid growths in the naso-pharynx. Lennox Brown, an unquestioned authority, says that 25 per cent. of all diseases of the upper respiratory tract are due to adenoids, also the relation of enlarged faucial tonsils to adenoids is as six to five. The most pronounced symptoms of adenoids is the tendency to keep the mouth constantly open, breathing through it exclusively. There also is a marked defect in pronunciation, the voice lacks the normal resonance and the nasal tones M, N, Ng are exchanged for others, for example, instead of saying "nasal" he says "dasal," and in place of "zimmerman" he will say "zimmerhad." Deafness from no other causes yields to treatment so readily as this one. It consists in the removal of the growth, an operation without especial danger, and after which often times the patient gives astonishing evidence of improvement in the general health, as well as in the restoration of hearing."

The principals of the various schools spoke on the subject of **Hygiene of Jacksonville Schools.** Afterward the discussion was thrown open to all present.

MONTGOMERY CO. MEDICAL SOCIETY.

Officers.

President .....P. M. Kelly, M. D.
Vice-President.....W. W. Douglass, M. D.
Secretary and Treasurer...H. F. Bennett, M. D.
Board of Censors.....M. L. Moyer
T. J. Whitten and W. A. Allen.

The Montgomery County Medical Society met in semi-annual session at Hillsboro, at 2 p. m., October 3, 1905, President W. H. Cook in the chair.

The following members were present at roll call: W. H. Cook, P. M. Kelly, W. A. Allen, M. L. Moyer, W. A. Edwards, Z. V. Kimball, T. J. Whitten and G A. Clotfelter.

It was ordered that the Secretary provide

every physician in the county with a copy of the constitution and by-laws of this Society.

The following visitors were elected to membership: Amos Sawyer, W. A. Hodges, L. F Brown, H. A. Seymour, E. A. Beurell and H. F. Bennett.

Dr. Amos Sawyer read a paper on **Tuberculosis Pulmonalis,** which was discussed by Drs Kelly, Allen, Cook and Burwell.

Dr. Lockhart reported a case of convulsion and coma in an elderly woman which resulted in recovery, and the case was discussed by Drs. Whitten and Kelly.

The officers as above were elected for the ensuing year.

Adjourned to meet in Litchfield in April.

ROCK ISLAND COUNTY MEDICAL SOCIETY

Regular meetings are held bimonthly at Rock Island on the second Tuesday. Membership 56.

Officers.

President.....G. L. Eyster, Rock Island
Vice-President.....F. H. Gardner, Moline
Secretary.....R. Dart, Rock Island
Treasurer.....J. E. Asay, Rock Island
Official Reporter.....F. H. First, Rock Island

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The regular meeting was held at Manufacturers' Hotel, Moline, Tuesday evening, October 10.

There were nineteen members present. Supper was served at 6:30, after which a very interesting symposium on **Rheumatism** was held.

Papers by Drs. A. M. Beal, of Moline, and J. P. Comegys, of Rock Island.

The papers were discussed by all members.

Following was a paper by Dr. E. Sargent, of Moline, on **Treatment of Head Injury,** which was generally discussed.

The next meeting will be held in Rock Island on Tuesday, December 11.

VERMILION COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Council Chamber, Danville, Illinois, the second Monday in each month at 8 P. M.

Officers.

President.....F. N. Cloyd
Vice President.....S. L. Landauer
Secretary-Treasurer.....C. E. Wilkinson
Board of Censors—H. F. Becker, Joseph Fairhall and Benj. Gleeson.
Public Health and Legislation—Joseph Fairhall, E. E. Clark, T. E. Walton.
Program—F. N. Cloyd, E. B. Coolley, C. P Hoffman.

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The Vermilion County Medical Society was called to order in the City Hall at 8:20 p. m. The Secretary being absent on account of sickness, the minutes of the September meeting were not read. E. E. Clark acted as Secretary.

The committee on the medical library matter was not prepared with definite information and was given more time.

The Board of Censors reported favorably on the name of T. B. Redmon, who was elected to membership.

On motion W. H. Boone, of Sidell, was reinstated to membership.

Paper on **Summer Diarrhoea of Children** by E. B. Cooley, followed by an interesting and general discussion.

The paper on **Treatment of Typhoid Fever** not being available, a discussion on the subject was opened by S. M. Black.

On motion it was decided to have at the December meeting a stag social session and invite all regular members of the profession in Vermilion County.

Adjourned.

Western Illinois District Medical Society for the Sixth Councilor District.

The anual meeting was held at Alton, October 28.

The officers of the Society are: H. W. Chapman, Whitehall, President; L. J. Harvey, Griggsville, First Vice President; David W. Reid, Jacksonville, Second Vice President; A. L. Adams, Jacksonville, Secretary and Treasurer. The Board of Censors are: T. J. Pitner of Jacksonville, L. H. A. Nickerson of Quincy, Waldo Fisher of Alton. The following program was rendered: "The Consideration of Serious Surgical Emergencies," J. A. Day, Jacksonville; "Cholelithiasis," H. R. Lemen, Alton; "Pelvic Abscess," Henry Hart, Quincy; "Chronic Nephritis of the Aged," J. Palmer Matthews, Carlinville; "Muco-colitis, Report of Case," W. T. Knox, Manchester; "Glaucoma," T. L. Foulds, Alton; "Peritonitis," J. W. Hairgrove, Jacksonville.

New Incorporations.

Northwestern Drug and Remedy Company, Chicago; capital, $2,500; manufacturing drugs and chemicals; incorporators, Chauncey W. Martyn, Will M. Taylor, Marshall Solberg.

Vegetable Specific Company, Chicago; capital, $2,500; manufacturing patent medicines; incorporators, Charles H. Tucker, H. D. McIlrath, William A. Jennings.

Ravenswood Hospital, Chicago: Capital, $50,000; maintaining a hospital and training school for nurses; incorporators—George W. Green, George N. Bussey, Ernest A. Fetherstone.

In the treatment of fractures of the forearm no consideration is more important than the avoidance of contractures of the fingers, by the intelligent use of splints and by means of early, active and passive movements.

THE USE OF CYSTOGEN

IN

Cystitis & Pyelitis

has become the recognized treatment of a large proportion of the American Genito-Urinary Specialists. It impregnates the urine with formaldehyde; washes the Genito-Urinary tract from the glomerulus of the kidney to the meatus urinarius with this germicidal solution. Its influence will be seen in the rapidity with which it neutralizes ammonia, destroys putridity, and clears the urine of the tenacious mucus so prevalent in bladder troubles of the aged.

Samples on application to

CYSTOGEN CHEMICAL COMPANY
ST. LOUIS, MO.

COMMERCIAL FORMS:

Cystogen—Crystalline Powder.
Cystogen—5-grain Tablets.
Cystogen-Lithia (Effervescent Tablets).
Cystogen Aperient (Granular Effervescent Salt) with Sodium Phosphate.)

How to

Feed the Baby

Is often a perplexing question when mother's milk is insufficient, either in quantity or quality. Pure cow's milk is not always available, and most of the proprietary substitute foods are deficient in fat. Even cow's milk, although containing the requisite fat, is somewhat deficient in carbohydrates. But Winters says: "Children get over slight chemical differences in cow's milk much more readily than they do physical differences—those due to contamination." And Jacobi states: "Clean milk is far more important than any amount of modification."

Highland Brand Evaporated Cream

Which is simply good cow's milk reduced two and one-half times by evaporation and sterilized, overcomes all danger of contamination. Further than that it is more readily digestible than either raw, pasteurized or boiled milk. In short, it is far preferable to ordinary cow's milk from every standpoint. It is the simplest, most uniform and satisfactory substitute food. Trial quantity on request.

HELVETIA MILK CONDENSING CO., Highland, Illinois.

The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.
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PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

Epilepsy.

Two remedies have been recently introduced for the treatment of epilepsy. One of these is Verbenin, which has been highly recommended by a number of clinicians; especially in cases of gastrointestinal irritation from worms or other causes. The other is Solanine, the alkaloid of the horse-nettle. This plant has attracted a great deal of attention, as a remedy for the nervous irritability which renders the epileptic more liable than ordinary persons to suffer from these explosions. The crude plant preparations are too variable for anything like definite results, but their use has shown the remedy to be of undoubted value. The Abbott Alkaloidal Co. presents the pure alkaloid in granule form; and Verbenin as a purified extract, the best preparation as yet attainable.

Persistent Headache Due to Nasal Catarrh.

Nasal catarrh, both acute and chronic, frequently serves as the cause of headache. The pain is generally one of persistent type and classed as congestive. Examination in these cases may show suppuration of accessory sinuses with marked nasal obstruction due to small spurs, deviated septum and general hypertrophy. As a rule these obstructions are of little import if the engorged membrane can be readily depleted and the local circulatory system restored. This can readily be accomplished by instructing the patient in the use of Glyco-Thymoline in a 25 per cent solution (warm) by means of the K. & O. Nasal Douche. The solution should be applied at least twice daily until the nasal membrane is found to be perfectly normal. This measure will give prompt relief from the congestive pain and maintain the nasal membrane in a healthy condition.

The following case occurring in the practice of J. K. Cantrell, M. D., of Alton, Mo., can be cited as typical:

"I suffered for twenty years from nasal catarrh and at times experienced the most agonizing neuralgic pain of a superior orbital character; like all other physicians, thought but little of using any remedy than my own until I received the sample bottle of Glyco-Thymoline sent me by you. It set in my office for months until one of those neuralgic attacks came on, and after using my own remedy with little or no satisfactory results, I commenced the use of Glyco-Thymoline and was relieved in eight hours of the neuralgic pain, and I am glad to say I am as free from nasal catarrh as an infant. The above disease is the only disease I have had a chance to use Glyco-Thymoline on, and I used the sample sent me in curing myself. In conclusion will heartily recommend Glyco-Thymoline to all who have nasal catarrh and will wager one hundred dollars that it will cure the case unless the disease is of syphilitic origin. I think Glyco-Thymoline should be introduced in every physician's practice in the United States.

"I for one shall recommend and use it in every case that comes under my treatment for nasal catarrh."

Treatment of Cerebrospinal Meningitis.

Chief Staff Surgeon Sehrwald reports in the Deutsche Med. Wochenschrift, No. 35, 1905, a sporadic, typhoid and quite severe case in which all usual methods were employed, with only transient effect at the most. He then proposed daily inunctions of two drams unguentum Crede into the trunk, after cleansing with soap and alcohol. The effect was striking. With the very first inunction the clinical picture improved, and after four of them the patient was bright and cheerful and almost wholly free from subjective difficulties. As the treatment had not been altered in any other respect, there can be no doubt that the favorable turn in the disease is due to the silver salve. The author warmly recommends this simple and safe method to all practitioners.

Prof. Bjorkmann recommends the following treatment in cerebro-spinal meningitis. Inunctions of unguentum Crede are given at first twice and then once daily. At the same time the hair of the scalp is closely clipped, and moist borated gauze drenched in a 1½ per cent formaldehyde solution, acentanilid and 1/10 per cent kresamine is continually kept over the whole head from the root of the nose backward down to the neck and on the sides, leaving the ears free. The pack is covered with a cap of oil-cloth and renewed as soon as it becomes dry.—Merck's Archives, January, 1905.

Dr. Mitour contributes (Bulletin gen. de. Therap. med., July 15, 1905) a paper to the silver therapy of cerebrospinal meningitis. For

a woman with severe meningitis symptoms he ordered on the third day of the disease four inunctions of unguentum Crede. On the following day the convulsions ceased and the patient regained consciousness. Under two or three inunctions daily the temperature returned to normal on the ninth day of the sickness, and though the pulse was still a little rapid, the general condition and appetite were excellent. Complete cure followed. The author also reports a case of febrile eclampsia cured by the same therapy.

The Physician's Pocket Account Book, by Dr. J. J. Taylor, editor of the Medical Council, No. 4105, Walnut Street, Philadelphia, is a neat, compact, easily kept and strictly legal book, carried in the pocket and showing each person's account at a glance. Bound in leather only $1.00.

D. O. Haynes & Co., publishers of the Pharmaceutical Era, 90 William Street, New York, have just issued The Era Key to the U. S. P., based upon the last edition of that excellent work. It is handy, reliable and should be in the hands of every practitioner of medicine.

The Anti-Narcotic Santiarium is represented in our colums by an advertisement for the first time this month. This institution, we believe, is conducted on the ethical lines and can be recomended to our readers as a suitable place to send patients for treatment.

D. Appleton & Co. will publish early in November a new book on the **Differential Diagnosis and Treatment of Disease.** The author is Augustus Caille Fellow of the New York Academy of Medicine, member and ex-President of the American Pediatric Society, Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, Visiting Physician to the New York Post-Graduate and German Hospitals, Consulting Physician to Isabella Home and Hospital, etc. The profession will look forward to the publication of this work with great interest, as it will undoubtedly be a valuable contribution to medical literature.

Superstition in Medicine.

By Prof. Dr. Hugo Magnus. Authorized Translation from the German, edited by Dr. Julius L. Salinger, late Assistant Professor of Clinical Medicine, Jefferson Medical College; Physician to the Philadelphia General Hospital, etc. New York and London: Funk & Wagnalls C., 1905. Pp. 205. 12mo.

This volume contains a history of the erroneous ideas and fanciful beliefs that have prevailed in the world with regard to illness and its cure, from the days of ancient Rome to the present time.

The statements set forth should not be construed as reflecting the developments of theology or medicine at the time, but as the belief of the people existing in these periods. It is not a criticism of a system, but a criticism of man.

Manual of the Diseases of the Eye.

By Charles H. May, M. D., Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York, etc. Four edition, revised, with 860 original illustrations, including 21 plates and 60 colored figures. Four hundred pages. Price, $2.00. William Wood & Co., 51 Fifth Avenue, New York.

This manual has gone through four editions in five years and has been translated into German and Italian as well as reprinted in English. It seems therefore to have filled the traditional long-felt want, and can be recommended for students and those practitioners that wished to be placed in touch with things in ophthalmic practice. It is thorough, concise and cheap.